UK MET OFFICE
GLOBAL DATA MONITORING REPORT

June 2006

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CONTENTS

1. Introduction

2. Global Data Monitoring Statistics

3. Composite Observing Systems for the North Atlantic (COSNA)

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1. Introduction

As the WMO-appointed lead centre for monitoring surface marine data, the U.K. Meteorological Office produces monthly statistics on the quality of these observations received at RSMC Exeter. This report includes this information along with statistics for most other types of data. The figures and tables contained herein are presented according to the agreed standards for the exchange of monitoring results.

The report is based on data received at the UK Meteorological Office Headquarters, Exeter in time for inclusion into the appropriate analysis (the current cut-off time is approximately 7.2 hours after each analysis time). The evaluation of data quality is based on comparison with the appropriate 6-hour global model forecast (background) field, although to provide background values valid at the observation time for non-main hour data, time-interpolation of the T+3, T+6 and T+9 forecasts is used; and for sea surface temperature the background field is the analysis from the previous day. Generally, the background field is of high quality except in data sparse areas, tropical regions and areas close to steep orography where care should be taken in interpreting the statistics shown.

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2 Global Data Monitoring Statistics

Ships, Fixed buoys, Platforms and Drifting buoys observations

TABLES 1and 2 contain lists of the stations which are considered to have returned suspect observations of pressure, windspeed, wind direction or sea surface temperature, as appropriate, during the month. The criteria for quality control are given on the header page for each table.

Figures 1 and 2 show 10 degree lat/long box average numbers of SHIP/SYNOP and DRIFTER observations received per day throughout the month at Exeter and assimilated into model runs. All data are included. Box average values are plotted as the nearest whole number (values of x.5 are rounded up). Where the average is more than 999, then 999 is plotted. A box with no observations is blank. If the 24 hour average >0 but <0.5, then 0 is plotted.

Synop Observations

Table 3 contains a list of stations which are considered to have returned suspect observations of Pressure during the month. The criteria for quality control are given in the header page. The reporting practice of each station is included in the list of statistics.

At the UK Met. Office, we monitor SYNOP pressure after it has been interpolated to our Global NWP Model's surface height. For most synoptic stations (about 75%), the surface pressure (at the model surface) is calculated from the reported station-level pressure, or, if this is not available, the height of a standard pressure-level (e.g. 850 hPa or 700 hPa). If neither of these are available, or if the reported station-level pressure is deemed unreliable, the reported mean sea-level pressure is used (about 25% of SYNOPs).

Aircraft observations

Tables 4A (300-150 hPa) and 4B (1000-301 hPa) contain lists of statistics calculated from data received from all airline carriers.

Figures 3A (300-150 hPa) and 3B (1000-301 hPa) show 10 degree lat/long box average numbers of aircraft reports in AIREP/AMDAR code (including AIREP, ACAR, AMDAR, ASDAR and ADS) received per day throughout the month at Exeter and assimilated into model runs. Observations with a vector wind difference (compared with the model background field) of >60 m s^{-1} have been excluded. Box average values are plotted as the nearest whole number (values of x.5 are rounded up). Where the average is more than 999, then 999 is plotted. A box with no observations is blank. If the 24 hour average >0 but <0.5, then 0 is plotted.

Figures 4A-7A (300-150 hPa) and 4B-7B (1000-301 hPa) show wind statistics for AIREP/ASDAR in AIREP/AMDAR code (including AIREP, ACAR, AMDAR, ASDAR and ADS). Observations with a vector wind difference > 60 m s^{-1} have been excluded. Statistics have not been calculated for 10 degree lat/long boxes containing <31 observations.

Figure	Parameter
4	Mean wind vectors
5	Mean observation - background wind vector
6	Mean observation-background speed (m s^{-1})
7	RMS observation-background vector (m s^{-1})

Radiosonde Observations

TABLES 5-7 contain lists of the stations which are considered to have returned suspect observations of geopotential height, vector wind or wind direction, as appropriate, during the month. The criteria for quality control are given on the header page for each table.

Figures 8 and 9 show 10 degree lat/long box average numbers of TEMP 500 hPa GEOPOTENTIAL HEIGHT and TEMP/PILOT 300 hPa WIND observations received per day throughout the month at Exeter and assimilated into model runs. Data from all hours are included. Box average values are plotted as the nearest whole number (values of x.5 are rounded up). Where the average is more than 999, then 999 is plotted. A box with no observations is blank. If the 24 hour average >0 but <0.5, then 0 is plotted.

APPENDIX I shows details of the gross error limits used in TABLES 5 and 6 and the weights used in the RMS values in TABLE 5.

Satellite Observations

Figures 10-24 show satellite wind statistics for all geostationary satellites. All plots other than **AVAILABILITY** show average data where there are > 10 observations in a 10 degree lat/long box.

Figure	Parameter Plotted	Layer (hPa)
10	Availability/average daily number	701-1000
11	Vector mean wind (observed)	701-1000
12	Observation-background vector wind difference	701-1000
13	Mean observation-background speed differences	701-1000
14	RMS observation-background vector difference	701-1000
15	Availability/average daily number	401-700
16	Vector mean wind (observed)	401-700
17	Observation-background vector wind difference	401-700
18	Mean observation-background speed differences	401-700
19	RMS observation-background vector difference	401-700
20	Availability/average daily number	101-400
21	Vector mean wind (observed)	101-400
22	Observation-background vector wind difference	101-400
23	Mean observation-background speed differences	101-400
24	RMS observation-background vector difference	101-400

Figures 25-39 show sounding statistics from the polar orbitting satellite NOAA-15. Figure 25 shows the mean daily number of ATOVS soundings, and figures 26-39 show mean and standard deviation observation-background differences for brightness temperature, for selected channels.

Figure		Weighting function peak (hPa)
26	Mean	Surface (HIRS8)
27	SD	Surface (HIRS8)
28	Mean	700 (HIRS15)
29	SD	700 (HIRS15)
30	Mean	500-700 (HIRS11)
31	SD	500-700 (HIRS11)
32	Mean	400 (HIRS4)
33	SD	400 (HIRS4)
34	Mean	700 (AMSUA5)
35	SD	700 (AMSUA5)
36	Mean	300 (AMSUA7)
37	SD	300 (AMSUA7)
38	Mean	100 (AMSUA9)
39	RMS	100 (AMSUA9)

Figures 40-54 show sounding statistics from the polar orbitting satellite NOAA-16. Figure 40 shows the mean daily number of ATOVS soundings, and figures 41-54 show mean and standard deviation observation-background differences for brightness temperature, for selected channels.

Figure		Weighting function peak (hPa)
41	Mean	Surface (HIRS8)
42	SD	Surface (HIRS8)
43	Mean	700 (HIRS15)
44	SD	700 (HIRS15)
45	Mean	500-700 (HIRS11)
46	SD	500-700 (HIRS11)
47	Mean	400 (HIRS4)
48	SD	400 (HIRS4)
49	Mean	700 (AMSUA5)
50	SD	700 (AMSUA5)
51	Mean	300 (AMSUA7)
52	SD	300 (AMSUA7)
53	Mean	100 (AMSUA9)
54	RMS	100 (AMSUA9)

Figures 55-69 show sounding statistics from the polar orbitting satellite NOAA-18. Figure 55 shows the mean daily number of ATOVS soundings, and figures 56-69 show mean and standard deviation observation-background differences for brightness temperature for selected channels.

Figure		Weighting function peak (hPa)
56	Mean	Surface (HIRS8)
57	SD	Surface (HIRS8)
58	Mean	700 (HIRS15)
59	SD	700 (HIRS15)
60	Mean	500-700 (HIRS11)
61	SD	500-700 (HIRS11)
62	Mean	400 (HIRS4)
63	SD	400 (HIRS4)
64	Mean	700 (AMSUA5)
65	SD	700 (AMSUA5)
66	Mean	300 (AMSUA7)
67	SD	300 (AMSUA7)
68	Mean	100 (AMSUA9)
69	RMS	100 (AMSUA9)

N.B. All satellite sounding data is bias-corrected (and thinned) before being assimilated in the UKMO NWP model.

3 Composite Observing Systems for the North Atlantic (COSNA)

This section shows statistics for upper air (radiosonde and aircraft) and surface (drifter) data for the North Atlantic area for data received at Exeter during the month.

TABLE 8 shows quality statistics for **Mean Sea-level Pressure, Windspeed and Wind Direction** received at Exeter in DRIFTER code during the month for the area 10°N - 80°N, 85°W - 0°W.

TABLE 9 shows quality statistics for **Temperature and Vector Wind** received at Exeter from aircraft during the month for the area 40°N - 70°N, 60°W - 0°W.

Table 10 - 13 show quality statistics **(Geopotential Height and Windspeed at 100 and 500 hPa)** for all TEMPSHIPS in the area bounded by 0°N - 90°N, 100°W - 40°E and selected TEMP stations within the same area.

Revisions

1. May 95 Monitoring statistics for NOAA-11 removed. Figures 25-27 now show data for NOAA-12
2. May 95 Notes giving details of observations included in wind direction statistics clarified and corrected.
3. August 95 Monitoring statistics for NOAA-14 added with figures 28-30.
4. February 96 Monitoring statistics for GOES-7 have been replaced by statistics for GOES-8 and GOES-9.
5. April 96. 500 km and 120 km SATEMs replaced by 120 km resolution temperature profiles produced locally from the radiances disseminated by NESDIS.
6. February 97 Monitoring statistics for Meteosat 5 have been replaced by statistics for Meteosat 6.
7. Sept 97 Monitoring statistics for NOAA-12 removed. Figures 25-27 now show data for NOAA-11
8. January 1998. Increase in resolution of UKMO global forecast model.
9. April 1998. GOES winds ceased on 2nd March 1998, and were replaced with GOES high resolution winds from 15th.
10. June 1998. Monitoring statistics for Meteosat-6 were replaced by monitoring statistics for Meteosat-7, from 3rd June.
11. June 1998. Corrections in our processing of radiosonde data resulted in a decrease in the number of 500hPa geopotential heights in Figure 8 of about 230 per 24 hours (compared with previous reports), and a small increase in the number of 300hPa winds in Figure 9.
12. July 1998. Meteosat-5 began transmitting winds from 2nd July, at 63 degrees East (over the Indian ocean), and this data is included in the statistics.
13. July 1998. GOES-9 (at 135W) was replaced mid-month by GOES-10 (initially at 105W, moving towards 135W).
14. February 1999. Problems with NOAA-11, and TOVS data ceased to be assimilated from 26 February.
15. March 1999. UKMO introduced 3-D VAR assimilation system on 29 March, and also began assimilating ATOVS data from NOAA-15.
16. May 1999. Included statistics for ATOVS sounding data from NOAA-15.
17. September 1999. Included statistics for high resolution visible winds from Meteosat-5 and Meteosat-7.
18. October 1999. The 3-D VAR assimilation system was upgraded on 19 October, including improvements in the assimilation of ATOVS radiances, use of SSM/I surface wind speed, an improvement in the calculation of surface pressure for SYNOPs, and thinning and revision of observation errors of aircraft data.
19. November 1999. High resolution visible winds from Meteosat-5 and Meteosat-7 removed until used operationally.
20. April 2000. Aireps in Table 4 and Figures 3-7 split into ranges 300-150 hPa (A) and 1000-301 hPa (B).
21. September 2000. Corrected an error affecting the mean positions of a minority of buoys in Table 2.
22. November 2000. An error in the production of Table 6 was corrected. Previously, some sondes with suspect vector winds were being missed.
23. April 2001. Included statistics for ATOVS sounding data from NOAA-16.
24. May 2001. Included statistics for sea surface temperatures from marine surface observations.
25. December 2002. Included statistics for ATOVS sounding data from NOAA-17.
26. December 2002. Meteosat-7 and Meteosat-5 SATOB winds replaced by higher resolution BUFR-coded winds.
27. November 2003.Included temperature and relative humidity statistics for ships, fixed buoys and platforms in Table 1.
28. November 2003. NOAA 17 statistics no longer available due to malfunction of the AMSU-A instrument.
29. December 2005. Included statistics for ATOVS sounding data from NOAA-18.

TABLE 1

MONITORING OF MARINE SURFACE OBSERVATIONS
MONTHLY SUSPECT LIST - SHIPS, FIXED BUOYS AND PLATFORMS
MONITORING CENTRE: EXETER
MONTH: Jun 06

Monitoring procedures

Period :One calendar month.

Data monitored :Reports from each unique identifier for ships, fixed buoys and platforms.

Standard of comparison :Background field from UKMO global model.

Observation times :All hours

Elements monitored
:Mean sea level pressure (hPa).
:Wind speed ($m\ s^{-1}$).
:Wind direction (Degrees).
:Air temperature (Degrees C).
:Relative Humidity (%).
:Sea surface temperature (Degrees).

Parameters monitored

:NOBS :Number of observations received excluding duplicates.

:PGE :Percentage of observations with gross errors.

:%REJ :Percentage of observations flagged excluding those with gross errors.

:SD :SD of difference of observations from background values excluding those with gross errors.

:BIAS :Mean difference of observations from background values excluding those with gross errors.
N.B. a positive bias indicates the wind observation is veered to the background.

:RMS :Root Mean Square difference of observations from background values excluding those with gross errors.

GROSS ERROR LIMIT
:15 hPa (pressure)
:25 $m\ s^{-1}$ (vector wind)
:15 degrees (air temperature)
:10 degrees (sea surface temperature)

SELECTION CRITERIA :NOBS ≥ 20 , and one or more of the following:

1.|bias|	≥ 4 hPa	(pressure),
	≥ 5 $m\ s^{-1}$	(wind speed),
	≥ 30 degrees	(direction).
	≥ 3 degrees	(sea surface temperature).
	≥ 4 degrees	(air temperature)
	≥ 15%	(relative humidity)
2.SD	≥ 6 hPa	(pressure),
	≥ 80 degrees	(direction).
	≥ 5 degrees	(sea surface temperature).
	≥ 6 degrees	(air temperature)
	≥ 25%	(relative humidity)
3.PGE	≥ 25	

N.B. Observations of wind direction are only included in the wind direction statistics if the observed OR background wind speed > 5 $m\ s^{-1}$

IDENTIFIER	ELEM	NOBS	PGE	%REJ	SD	BIAS	RMS
A8FZ6	P	38	0	97	0.9	6.9	6.9
A8IX5	P	46	0	76	2.0	4.8	5.2
C6LU4	P	30	0	3	1.3	4.8	5.0
C6PZ3	P	35	0	86	1.8	5.9	6.2
C6QK	P	91	1	7	1.2	4.7	4.9
DLCX	P	29	0	0	1.1	4.3	4.5
KF003	P	59	3	100	1.6	-9.4	9.6
KS049	P	230	0	0	0.8	-4.0	4.1
LJIT	P	55	0	60	2.8	4.6	5.4
OWAY2	P	39	0	38	2.1	4.1	4.6
OWTW2	P	21	0	0	1.2	4.7	4.9
OWWS2	P	22	0	0	1.4	5.0	5.2
PBGH	P	31	0	55	1.7	-4.0	4.3
S6JS	P	53	0	92	2.6	-8.7	9.1
TEST	P	32	100	100			
TESTCA5	P	179	0	100	0.5	-11.1	11.1
TESTFR1	P	22	100	100			
UBXS	P	82	0	17	1.9	6.2	6.5
UCTK	P	21	0	5	1.8	-4.4	4.7
UCUO	P	67	28	100	7.0	-3.8	8.0
UCUQ	P	35	11	97	2.6	10.1	10.4
UGNQ	P	20	0	15	1.5	-5.7	5.9
UGOU	P	40	0	47	4.0	-4.0	5.7
VRBI3	P	34	0	68	1.2	-4.6	4.7
V2AW5	P	26	0	4	2.4	4.1	4.8
V2BN9	P	29	7	100	0.5	-6.8	6.8
V7FW8	P	47	0	60	5.6	5.2	7.7
WDB9986	P	35	3	60	0.8	7.1	7.1
3EES2	P	23	4	9	1.6	4.9	5.2
9VBP2	P	23	70	70	0.6	-1.0	1.2

IDENTIFIER	ELEM	NOBS	PGE	%REJ	SD	BIAS	RMS
A8DV4	SPEED	20	0	10	3.7	7.3	8.2
HP6038	SPEED	224	0	63	3.4	6.7	7.5
OWFU2	SPEED	39	0	100	6.8	5.7	8.9
OZWP2	SPEED	51	0	55	5.7	6.8	8.9
VEP717	SPEED	203	0	71	3.8	7.1	8.0
VNVR	SPEED	33	0	58	3.6	5.3	6.4
V2BE4	SPEED	26	0	0	3.4	-5.6	6.6
V7IA5	SPEED	45	2	69	6.7	11.8	13.6
63113	SPEED	286	0	34	2.8	-5.6	6.2

IDENTIFIER	ELEM	NOBS	PGE	%REJ	SD	BIAS	RMS
ELXS8	DIRN.	27	0	0	82.5	-16.7	84.1
FNPN	DIRN.	60	0	0	91.6	43.5	101.4
H3VT	DIRN.	27	0	0	90.9	-27.5	95.0
TOUR	DIRN.	63	0	0	54.5	34.9	64.7
VNVR	DIRN.	25	0	0	33.1	-31.8	45.9
23174	DIRN.	160	0	0	76.6	-77.7	109.1
32318	DIRN.	91	0	0	67.2	-74.7	100.4
46078	DIRN.	356	0	0	10.1	-38.1	39.4
52086	DIRN.	55	0	0	111.4	40.1	118.4
9HGR8	DIRN.	51	2	0	80.5	44.8	92.2

IDENTIFIER	ELEM	NOBS	PGE	%REJ	SD	BIAS	RMS
CGDR	T	46	0	100	3.9	8.0	8.9
CGJK	T	58	0	100	7.1	4.4	8.4
CG2560	T	28	4	100	2.6	4.2	4.9
H3WJ	T	27	0	100	2.1	6.0	6.4
KUU619	T	21	0	100	2.5	5.3	5.9

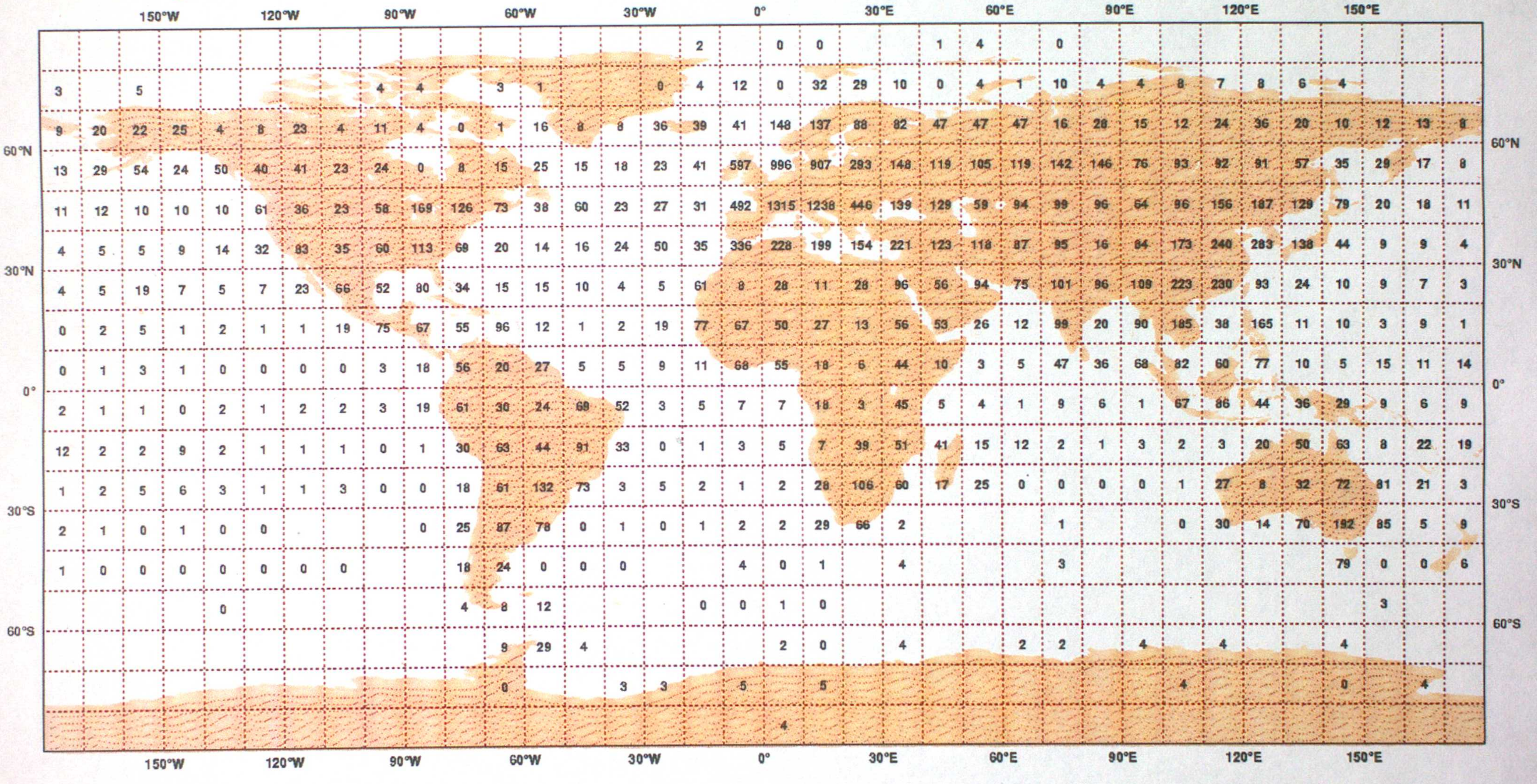
LAKQ5	T	35	3	100	3.8	4.0	5.5
OZ204	T	32	0	100	2.2	4.0	4.6
OZ2048	T	26	0	100	1.5	4.1	4.4
PBKH	T	22	0	100	4.5	6.2	7.6
PCHM	T	71	4	100	4.6	5.2	7.0
PHEO	T	43	0	100	4.2	7.3	8.4
PHSG	T	59	2	100	4.6	4.6	6.5
TEST	T	32	100	100			
TESTFR1	T	22	36	100	4.4	8.0	9.1
UBXS	T	82	0	100	1.6	5.2	5.5
UCUO	T	66	8	100	4.4	-4.8	6.5
VC6750	T	243	0	100	2.4	4.3	5.0
VJBF	T	23	43	100	1.4	-0.1	1.4
VRAR7	T	28	0	100	1.9	4.0	4.4
WCY2306	T	195	3	100	2.9	8.7	9.2
WDC7515	T	34	6	100	5.7	4.2	7.0
WN4201	T	22	9	100	4.3	8.3	9.3
WTEF	T	71	0	100	3.2	4.0	5.1
WXJ63	T	220	14	100	2.6	10.3	10.6
WXN3191	T	134	0	100	4.2	4.6	6.2
WXQ4511	T	23	9	100	3.3	4.4	5.5
45006	T	238	0	100	2.6	5.8	6.4
45144	T	554	16	100	2.2	11.4	11.6
45154	T	711	0	100	2.1	5.1	5.5
45158	T	47	0	100	1.9	8.1	8.3
46054	T	206	0	100	3.6	-4.7	5.9
46081	T	717	0	100	1.6	6.6	6.8

IDENTIFIER	ELEM	NOBS	PGE	%REJ	SD	BIAS	RMS
A3BJ4	RH	26	0	100	8.2	15.9	17.9
A8CN7	RH	45	0	100	8.0	23.7	25.0
BATEU00	RH	205	0	100	23.3	-21.9	32.0
CGDR	RH	46	0	100	16.6	-32.5	36.4
CGJK	RH	58	0	100	32.4	-14.7	35.6
DBFC	RH	498	0	100	21.0	-32.9	39.0
ELWX5	RH	77	0	100	16.5	-55.3	57.7
ELYA5	RH	29	0	100	12.2	-23.0	26.1
FNAT	RH	68	0	100	6.5	19.7	20.7
MSTM6	RH	37	0	100	14.6	-15.2	21.1
OUEV	RH	79	0	100	28.7	-26.4	39.0
PBGH	RH	30	0	100	9.7	-17.1	19.7
PBKH	RH	21	0	100	9.7	-15.9	18.7
PDWT	RH	49	0	100	21.8	-18.4	28.5
SKUN	RH	27	0	100	23.3	-19.2	30.2
TESTFR1	RH	22	0	100	21.0	-39.6	44.8
VRZZ5	RH	64	0	100	7.0	-15.2	16.7
V2CP	RH	33	0	100	8.4	-34.5	35.5
V7JC2	RH	25	0	100	13.6	-29.5	32.5
46088	RH	467	0	100	17.3	16.7	24.0
61002	RH	707	0	100	20.2	-16.4	26.0
62170	RH	30	0	100	3.5	-50.4	50.6
62402	RH	38	0	100	11.0	-16.1	19.5

IDENTIFIER	ELEM	NOBS	PGE	%REJ	SD	BIAS	RMS
A8CB4	SST	27	0	15	1.4	-3.1	3.4
A8CF9	SST	37	8	32	2.4	-3.1	3.9
A8DZ4	SST	41	0	100	0.8	3.0	3.1
A8GA2	SST	38	13	100	3.9	-3.7	5.4
BATEU00	SST	22	100	100			
CGTF	SST	51	8	53	2.5	4.0	4.7
CG8049	SST	60	0	100	1.2	3.0	3.3
C6KD5	SST	36	0	69	1.3	-4.4	4.6
DHSI	SST	30	0	40	1.0	-3.8	4.0

J7AW6	SST	35	0	63	2.4	-4.6	5.2
KS049	SST	230	0	74	2.1	-4.3	4.8
KUU619	SST	20	0	35	3.3	4.0	5.2
LAIP5	SST	35	0	94	2.2	-3.4	4.1
MGYF6	SST	44	16	91	1.7	5.3	5.6
NL9H	SST	78	0	62	0.2	-4.1	4.1
OWEB2	SST	26	4	100	0.9	-3.2	3.3
P3BP9	SST	32	0	100	0.6	4.3	4.3
P3ZY6	SST	27	0	85	1.3	5.1	5.3
SIWB	SST	48	0	100	1.4	3.9	4.2
TEST	SST	32	100	100			
UCEF	SST	32	0	56	1.9	3.0	3.5
UCFT	SST	57	0	79	0.5	-4.4	4.4
UFJC	SST	27	15	85	2.6	-4.5	5.2
VLTT	SST	112	38	40	1.9	0.1	1.9
V2AC6	SST	24	0	100	0.8	3.1	3.2
V7IP9	SST	53	0	100	2.8	3.8	4.7
WAAH	SST	89	0	101	1.3	3.2	3.4
WMLH	SST	26	0	100	0.6	3.0	3.1
WZJD	SST	34	0	100	0.7	-4.3	4.4
3FRR5	SST	46	4	100	0.7	-5.7	5.8
44008	SST	715	0	49	1.2	-3.0	3.2
44141	SST	713	0	92	1.1	4.9	5.0
45004	SST	229	0	68	1.8	-4.1	4.4
45006	SST	239	1	35	2.5	3.1	3.9
45144	SST	546	90	100	0.2	9.6	9.6
45145	SST	371	100	100			
45154	SST	711	5	100	1.7	6.0	6.2
45158	SST	47	49	100	0.7	9.1	9.1
46029	SST	237	0	42	0.7	-3.0	3.0

Figure 1. SHIP/SYNOP mean daily count. JUNE 2006
All hours
Global average number of observations in 24 hours = 21513



																2		0	0			1	4		0										
3		5						4	4		3	1			0	4	12	0	32	29	10	0	4	1	10	4	4	8	7	8	6	4			
9	20	22	25	4	8	23	4	11	4	0	1	16	8	8	36	39	41	148	137	88	82	47	47	47	16	28	15	12	24	36	20	10	12	13	8
13	29	54	24	50	40	41	23	24	0	8	15	25	15	18	23	41	597	996	907	293	148	119	105	119	142	146	76	93	92	91	57	35	29	17	8
11	12	10	10	10	61	36	23	58	169	126	73	38	60	23	27	31	492	1315	1238	446	139	129	59	94	99	96	64	96	156	187	129	79	20	18	11
4	5	5	9	14	32	83	35	60	113	68	20	14	16	24	50	35	336	228	199	154	221	123	118	87	95	16	64	173	240	283	138	44	9	9	4
4	5	19	7	5	7	23	66	52	80	34	15	15	10	4	5	61	8	28	11	28	96	56	94	75	101	96	109	223	230	93	24	10	9	7	3
0	2	5	1	2	1	1	19	75	67	55	96	12	1	2	19	77	67	50	27	13	56	53	26	12	99	20	90	185	38	165	11	10	3	9	1
0	1	3	1	0	0	0	0	3	18	56	20	27	5	5	9	11	68	55	18	6	44	10	3	5	47	36	68	82	60	77	10	5	15	11	14
2	1	1	0	2	1	2	2	3	19	61	30	24	69	52	3	5	7	7	18	3	45	5	4	1	9	6	1	67	86	44	36	29	9	6	9
12	2	2	9	2	1	1	1	0	1	30	63	44	91	33	0	1	3	5	7	39	51	41	15	12	2	1	3	2	3	20	50	63	8	22	19
1	2	5	6	3	1	1	3	0	0	18	61	132	73	3	5	2	1	2	28	106	60	17	25	0	0	0	0	1	27	8	32	72	81	21	3
2	1	0	1	0	0				0	25	87	78	0	1	0	1	2	2	29	66	2				1			0	30	14	70	192	85	5	9
1	0	0	0	0	0	0	0			18	24	0	0	0			4	0	1		4				3							79	0	0	6
				0						4	8	12				0	0	1	0														3		
											9	29	4					2	0		4			2	2		4		4			4			
											0			3	3		5		5									4				0		4	
																		4																	

TABLE 2

MONITORING OF MARINE SURFACE OBSERVATIONS
MONTHLY SUSPECT LIST - DRIFTING BUOYS
MONITORING CENTRE: EXETER
MONTH: Jun 06

Monitoring procedures

Period		:One calendar month.	
Data monitored		:Reports from each unique identifier for drifting buoys.	
Standard of comparison		:Background field from UKMO global model.	
Position		:Average latitude and longitude for period.	
Observation times		: All hours	
Elements monitored		:Mean sea level pressure (hPa). :Wind speed (m s^{-1}). :Wind direction (degrees). :Sea surface temperature (degrees).	
Parameters monitored	:NOBS	:Number of observations received excluding duplicates.	
	:PGE	:Percentage of observations with gross errors.	
	:%REJ	: Percentage of observations flagged excluding those with gross errors	
	:SD	:SD of difference of observations from background values excluding those with gross errors.	
	:BIAS	:Mean difference of observations from background values excluding those with gross errors. **N.B. a positive bias indicates the wind observation is veered to the background.**	
	:RMS	:Root Mean Square difference of observations from background values excluding those with gross errors.	
GROSS ERROR LIMIT	:15 hPa	(pressure)	
	:25 m s^{-1}	(vector wind)	
	:10 degrees	(sea surface temperature)	
SELECTION CRITERIA :	NOBS	≥ 20 , and one or more of the following:	
	1.|bias|	≥ 4 hPa	(pressure),
		≥ 5 m s^{-1}	(wind speed),
		≥ 30 degrees	(direction).
		≥ 3 degrees	(sea surface temperature).
	2.SD	≥ 6 hPa	(pressure),
		≥ 80 degrees	(direction).
		≥ 5 degrees	(sea surface temperature).
	3.PGE	≥ 25.	

N.B. Observations of wind direction are only included in the wind direction statistics if the observed OR background wind speed > 5 m s^{-1}

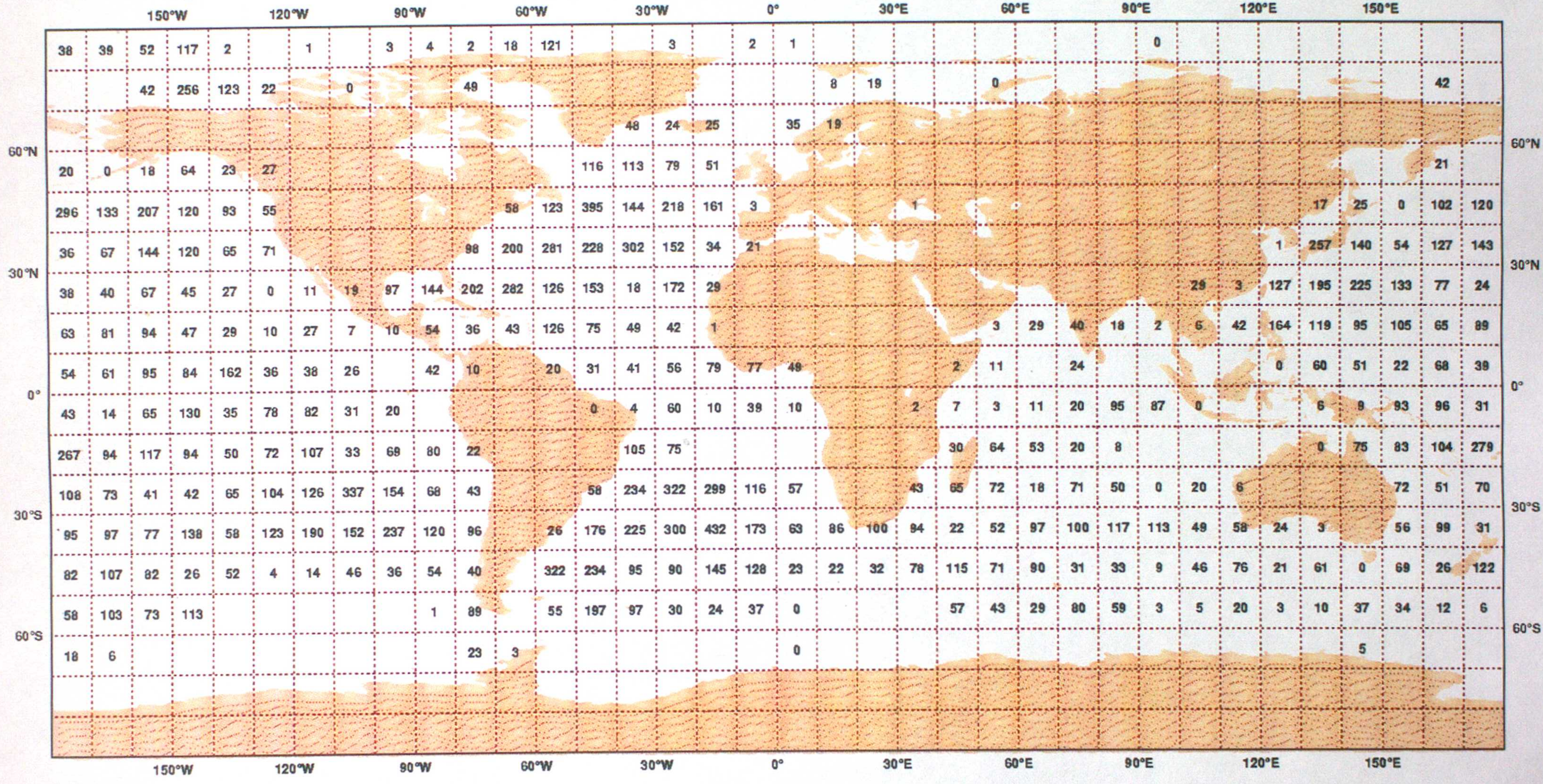
IDENTIFIER	LAT.	LONG.	ELEM	NOBS	PGE	%REJ	SD	BIAS	RMS
12531	44.6	33.5	P	41	0	100	0.5	-6.4	6.4
17658	-58.2	49.5	P	796	14	52	6.1	-1.3	6.2
23594	-2.4	62.5	P	429	0	100	0.8	-5.1	5.1
23596	16.7	70.6	P	416	0	92	0.8	-4.0	4.1
25574	85.5	25.7	P	23	100	100			
33661	-57.4	-38.4	P	951	6	65	6.4	-0.6	6.4
41942	28.6	-96.0	P	140	97	100	7.4	4.4	8.6
44746	39.4	-31.1	P	537	38	38	0.8	-0.7	1.0
47505	83.0	-57.8	P	2036	87	99	6.3	0.0	6.3
47506	85.8	-55.6	P	1190	79	100	5.9	5.2	7.9
56503	26.7	-82.0	P	32	94	97	0.1	-0.5	0.5
56532	44.7	-63.6	P	27	0	85	0.5	-4.5	4.5
68992	-54.4	3.3	P	1294	0	100	1.3	-4.3	4.5
71511	-60.3	-4.9	P	1137	26	75	6.6	1.1	6.7
71575	-56.7	12.6	P	1021	18	69	6.7	-1.4	6.8
71636	-60.4	5.4	P	743	43	100	8.2	-0.6	8.2
74544	-57.3	26.3	P	788	15	73	6.2	-1.2	6.3
74545	-66.4	32.6	P	77	51	71	3.7	-4.4	5.7

IDENTIFIER	LAT.	LONG.	ELEM	NOBS	PGE	%REJ	SD	BIAS	RMS
13977	1.0	2.9	SPEED	109	0	100	1.6	-5.7	5.9

IDENTIFIER	LAT.	LONG.	ELEM	NOBS	PGE	%REJ	SD	BIAS	RMS
15952	-2.5	-4.0	DIRN.	150	0	0	23.2	-33.5	40.7

IDENTIFIER	LAT.	LONG.	ELEM	NOBS	PGE	%REJ	SD	BIAS	RMS
12531	44.6	33.5	SST	35	6	51	3.3	3.4	4.7
22927	16.1	108.2	SST	158	0	100	1.5	4.1	4.4
41685	35.6	-57.5	SST	893	0	100	0.2	-3.7	3.7
43526	27.5	-110.7	SST	269	31	34	0.9	1.0	1.3
43531	26.0	-110.7	SST	80	41	81	5.4	-0.8	5.5
44768	64.7	-34.6	SST	711	0	83	3.5	3.8	5.1
51518	-11.3	143.2	SST	60	38	53	2.9	-1.4	3.2
51961	20.9	-156.7	SST	37	0	100	1.5	-5.2	5.4
53562	60.8	-148.0	SST	25	60	100	7.0	1.4	7.1
53907	-19.5	65.4	SST	298	43	43	0.1	0.5	0.5
61827	32.5	27.9	SST	479	47	75	0.8	0.6	1.0
61828	33.9	26.7	SST	472	39	81	0.8	0.7	1.1
61829	32.1	26.5	SST	462	39	77	0.4	0.7	0.8
61830	34.0	26.6	SST	438	38	77	0.5	0.5	0.7
61832	35.0	25.7	SST	321	42	86	3.2	3.8	5.0
61838	33.6	22.8	SST	510	0	76	1.4	-3.0	3.3
61842	36.8	15.2	SST	478	39	79	1.2	0.3	1.2
61843	36.2	12.2	SST	716	41	80	0.9	0.8	1.2
61846	36.1	13.4	SST	647	38	78	1.2	1.2	1.7
64615	64.8	-35.9	SST	704	26	60	3.0	2.6	4.0
71644	-52.4	70.7	SST	1057	0	100	1.1	5.4	5.5

Figure 2. DRIFTER mean daily count. JUNE 2006
All hours
Global average number of observations in 24 hours = 25009



38	39	52	117	2		1		3	4	2	18	121			3		2	1									0								
		42	256	123	22		0			49									8	19			0											42	
														48	24	25		35	19																
20	0	18	64	23	27								116	113	79	51																		21	
296	133	207	120	93	55						58	123	395	144	218	161	3				1										17	25	0	102	120
36	67	144	120	65	71					98	200	281	228	302	152	34	21													1	257	140	54	127	143
38	40	67	45	27	0	11	19	97	144	202	282	126	153	18	172	29												29	3	127	195	225	133	77	24
63	81	94	47	29	10	27	7	10	54	36	43	126	75	49	42	1							3	29	40	18	2	6	42	164	119	95	105	65	89
54	61	95	84	162	36	38	26		42	10		20	31	41	56	79	77	49				2	11		24					0	60	51	22	68	39
43	14	65	130	35	78	82	31	20					0	4	60	10	39	10			2	7	3	11	20	95	87	0			6	9	93	96	31
267	94	117	94	50	72	107	33	69	80	22				105	75							30	64	53	20	8					0	75	83	104	279
108	73	41	42	65	104	126	337	154	68	43			58	234	322	299	116	57			43	65	72	18	71	50	0	20	6				72	51	70
95	97	77	138	58	123	190	152	237	120	96		26	176	225	300	432	173	63	86	100	94	22	52	97	100	117	113	49	58	24	3		56	99	31
82	107	82	26	52	4	14	46	36	54	40		322	234	95	90	145	128	23	22	32	78	115	71	90	31	33	9	46	76	21	61	0	69	26	122
58	103	73	113						1	89		55	197	97	30	24	37	0				57	43	29	80	59	3	5	20	3	10	37	34	12	6
18	6									23	3							0														5			

TABLE 3

MONITORING OF LAND SURFACE OBSERVATIONS
MONTHLY SUSPECT LIST - SYNOPS & AUTOSYNOPS
MONITORING CENTRE: EXETER
MONTH: Jun 06

Monitoring procedures

Period		:One calendar month.
Data monitored		:Reports from each unique identifier for synops & autosynops.
Standard of comparison		:Background field from UKMO global model.
Observation times		:00, 06, 12, 18 UTC
Elements monitored		:Surface pressure (hPa).
Parameters monitored	:HT(m)	:Station height (in metres) as given in WMO No. 9 Vol A
	:RP	:Pressure reporting practice M=mean sea level pressure (hPa) reported. S=Station level pressure reported. 8=Geopotential height (m) of 850 hPa surface reported. 7=Geopotential height (m) of 700 hPa surface reported.
	:NOBS	:Number of observations received excluding duplicates.
	:NGE	:Number of observations with gross errors.
	:PGE	:Percentage of observations with gross errors.
	:%REJ	:Percentage of observations flagged excluding those with gross errors.
	:SD	:SD of difference of observations from background values excluding those with gross errors.
	:BIAS	:Mean difference of observations from background values excluding those with gross errors.
	:RMS	:Root Mean Square difference of observations from background values excluding those with gross errors.

GROSS ERROR LIMIT	:15 hPa	(pressure)
SELECTION CRITERIA	:NOBS	≥ 20 ,and one or more of the following:
	1.|bias|	≥ 4 hPa
	2. SD	≥ 6 hPa
	3.PGE	≥ 25.

N.B. For stn ht ≥ 500m, mslp is that calculated from station level pressure where available.
For stn ht < 500m, mslp is that as reported by the station where available.

SUSPECT SYNOPS (PRESSURE) BY WMO REGION JUN 2006

WMO REGION 1:

STATION	LAT	LONG	HT(M)	RP	NOBS	NGE	PGE	%REJ	SD	BIAS	RMS
60010	28.3N	16.5W	2367	S7	39	0	0	0	1.5	-4.5	4.7
60320	35.9N	5.4W	2	MS	55	0	0	0	1.3	-9.4	9.5
60423	36.3N	8.0E	680	S8	90	90	100	0			
62056	32.8N	21.9E	625	S8	88	1	1	0	1.4	-4.0	4.2
63160	10.4N	45.0E	9	M	25	6	24	0	0.8	-4.0	4.1
63330	13.5N	39.5E	2070	MS	39	35	90	0	0.5	-14.2	14.2
63333	11.1N	39.7E	1903	MS	58	0	0	0	0.9	4.8	4.9
63334	10.3N	37.7E	2515	MS	59	0	0	0	1.5	9.6	9.7
63450	9.0N	38.8E	2354	MS	68	0	0	0	0.8	4.4	4.5
63453	8.9N	39.9E	930	S	56	0	0	0	1.1	-4.6	4.7
63671	1.8N	40.1E	244	M	108	2	2	1	1.0	-4.5	4.6
63801	4.9S	29.6E	882	S8	24	0	0	0	1.2	7.9	8.0
63881	8.0S	31.6E	1923	S	28	6	21	11	0.7	13.5	13.5
67295	19.1S	33.5E	731	S8	58	14	24	0	1.0	12.9	12.9
68014	19.6S	18.1E	1411	S8	79	0	0	0	0.4	-7.2	7.2
68030	18.5S	25.6E	1071	S8	89	0	0	0	4.1	10.6	11.4
68102	19.9S	16.4E	1343	S8	114	0	0	0	0.5	5.9	5.9
68300	26.6S	15.1E	16	MS	114	0	0	0	0.7	-13.3	13.3
68312	26.5S	18.1E	1067	S8	81	0	0	0	0.5	4.2	4.2
68396	26.5S	31.3E	641	S8	60	0	0	2	1.3	5.0	5.2
68575	30.0S	30.0E	1175	S8	120	120	100	0			

WMO REGION 2:

STATION	LAT	LONG	HT(M)	RP	NOBS	NGE	PGE	%REJ	SD	BIAS	RMS
28666	55.3N	67.3E	140	MS	119	0	0	0	2.2	4.6	5.1
30554	54.5N	113.6E	995	MS	119	0	0	0	0.8	11.4	11.4
31534	50.4N	131.0E	230	MS	120	1	1	6	2.7	-4.6	5.3
35416	49.1N	54.7E	128	MS	120	0	0	0	0.7	4.1	4.2
36982	41.9N	78.2E	3635	S7	98	0	0	1	1.1	5.4	5.5
38846	38.4N	70.0E	1437	S8	114	1	1	2	2.0	-6.6	6.9
38944	37.5N	69.4E	448	MS	90	2	2	0	0.7	-6.9	6.9
40435	27.0N	44.1E	991	MS	58	0	0	0	0.8	7.2	7.2
40700	39.6N	47.9E	45	MS	98	0	0	0	1.0	-5.6	5.7
40713	37.4N	46.3E	1475	MS	101	4	4	0	0.5	13.6	13.6
40726	36.8N	45.7E	1384	MS	102	0	0	2	1.1	4.7	4.8
40741	36.5N	61.2E	235	MS	101	0	0	3	1.4	-4.5	4.7
40743	36.2N	57.7E	978	MS	110	0	0	1	0.9	6.1	6.2
40757	35.6N	53.4E	1171	MS	100	0	0	0	0.7	4.5	4.6
40780	33.6N	46.4E	1362	MS	103	0	0	0	0.6	5.2	5.2
40854	29.1N	58.4E	1067	MS	98	4	4	3	0.6	10.6	10.6
41241	26.2N	56.2E	3	S	96	0	0	0	0.6	-4.2	4.2
41252	23.4N	56.5E	244	MS	98	0	0	0	0.7	-8.5	8.5
41254	23.1N	57.6E	1755	S8	115	115	100	0			
41466	13.7N	44.1E	1402	S8	52	0	0	2	1.2	-7.5	7.6
44416	28.6N	81.6E	720	MS	64	2	3	2	1.2	5.2	5.3
47022	40.8N	128.2E	1224	S	89	0	0	1	1.0	5.8	5.9
47678	33.1N	139.8E	79	MS	120	0	0	0	0.7	-8.9	8.9
48921	21.6N	101.9E	923	S	52	52	100	0			
48924	21.1N	101.5E	644	S	52	0	0	2	0.8	11.4	11.4
48925	20.7N	102.0E	550	S	42	0	0	0	0.9	-9.5	9.5
48938	19.2N	101.7E	326	MS	55	30	55	0	0.4	14.4	14.4
48957	14.8N	106.8E	105	M	47	0	0	0	0.8	4.0	4.1
50978	45.3N	130.9E	234	MS	120	0	0	0	0.7	-5.7	5.7
52866	36.6N	101.8E	2262	S	120	0	0	0	0.7	-4.4	4.5
53646	38.3N	109.8E	1058	MS	120	0	0	0	0.8	-11.5	11.5
54292	42.9N	129.5E	178	MS	120	0	0	0	0.9	-8.8	8.8

56462	29.0N	101.5E	2994	S	120	0	0	0	1.0	8.3	8.4
56768	25.0N	101.5E	1773	S	120	0	0	0	0.7	-5.5	5.5
57816	26.6N	106.7E	1074	MS	120	62	52	0	0.4	-14.5	14.5
59023	24.7N	108.1E	214	MS	120	0	0	0	0.8	-5.5	5.6
59663	21.8N	112.0E	22	MS	120	0	0	0	0.7	-7.5	7.5

WMO REGION 3:

STATION	LAT	LONG	HT(M)	RP	NOBS	NGE	PGE	%REJ	SD	BIAS	RMS
80426	9.4N	70.6W	582	MS	40	0	0	0	1.0	4.5	4.6
80475	7.6N	72.1W	327	MS	30	2	7	0	0.9	4.9	5.0
82181	2.0S	54.1W	146	MS	85	0	0	0	1.3	5.0	5.2
82287	3.1S	41.8W	46	MS	54	0	0	0	0.7	-4.1	4.2
82704	7.6S	72.7W	170	MS	83	0	0	0	1.3	-4.0	4.2
83235	12.4S	46.4W	604	MS	84	0	0	0	0.8	5.6	5.7
83332	14.1S	46.4W	826	MS	82	4	5	0	0.7	13.7	13.7
83470	17.9S	50.9W	727	MS	80	3	4	5	1.2	-5.8	5.9
83531	18.6S	46.5W	940	MS	86	0	0	0	0.5	-6.4	6.4
83738	22.5S	44.5W	440	MS	84	0	0	18	1.8	-5.8	6.1
83836	25.5S	50.6W	837	MS	86	0	0	1	1.0	-4.7	4.8
83970	31.3S	50.9W	4	MS	73	0	0	4	1.1	-5.8	5.9
84132	0.9S	75.4W	215	MS	28	0	0	0	1.3	4.7	4.9
84140	1.1S	79.5W	73	MS	46	0	0	0	0.7	7.1	7.1
84143	1.0S	78.6W	2628	S7	42	0	0	0	0.7	-4.4	4.5
84160	1.3S	78.6W	2940	S7	41	3	7	2	1.7	13.6	13.7
84377	3.8S	73.3W	125	MS	106	0	0	0	1.3	4.0	4.2
84425	5.9S	76.1W	179	MS	22	0	0	5	1.2	5.2	5.3
84452	6.8S	79.8W	29	MS	111	0	0	0	0.7	5.0	5.0
84455	6.5S	76.4W	281	MS	81	0	0	0	1.3	7.1	7.2
84472	7.1S	78.5W	2620	S	52	0	0	0	0.6	-5.9	5.9
84474	7.2S	76.7W	350	S	21	0	0	0	1.0	9.9	10.0
84501	8.1S	79.0W	26	MS	82	0	0	0	0.8	4.9	5.0
84686	13.6S	72.0W	3248	S	107	1	1	0	0.7	-4.3	4.4
84688	13.7S	73.4W	3444	S	42	0	0	0	0.5	-13.2	13.2
85140	14.3S	67.4W	140	MS	57	0	0	0	1.2	9.0	9.1
85264	18.5S	64.1W	1998	S	56	56	100	0			
85312	19.8S	63.9W	992	S	47	0	0	19	2.4	-7.8	8.2
85364	21.6S	64.7W	1854	S8	57	0	0	4	1.1	4.2	4.3

WMO REGION 4:

STATION	LAT	LONG	HT(M)	RP	NOBS	NGE	PGE	%REJ	SD	BIAS	RMS
71060	52.5N	116.1W	230	MS	117	117	100	0			
71181	47.1N	55.3W	29	MS	120	0	0	0	0.6	-5.7	5.7
71581	45.5N	78.3W	330	MS	118	0	0	0	0.5	-8.1	8.1
71979	53.8N	118.4W	1542	MS	98	0	0	0	0.6	10.3	10.3
72327	36.1N	86.7W	182	MS	120	0	0	0	0.5	4.2	4.2
72376	35.2N	111.8W	2181	MS	116	116	100	0			
76055	31.0N	114.9W	440	MS	63	63	100	0			
76225	28.6N	106.1W	1435	MS	89	0	0	2	1.4	-4.5	4.7
76382	25.5N	103.5W	1124	MS	92	0	0	0	0.7	4.2	4.3
76543	22.0N	98.8W	104	MS	56	0	0	0	0.7	9.2	9.2
76658	19.2N	103.7W	494	MS	36	0	0	0	0.9	6.5	6.6
76762	17.5N	99.5W	1265	MS	90	0	0	0	0.7	5.6	5.6
76843	16.8N	93.1W	528	MS	112	0	0	0	0.7	-5.0	5.0
78588	17.2N	87.5W	-274	M	119	119	100	0			
78627	15.3N	91.5W	1901	S	28	1	4	0	0.6	5.1	5.1

WMO REGION 5:

STATION	LAT	LONG	HT(M)	RP	NOBS	NGE	PGE	%REJ	SD	BIAS	RMS
92010	6.1S	145.4E	1587	M	25	1	4	4	1.5	9.2	9.3

WMO REGION 6:

STATION	LAT	LONG	HT(M)	RP	NOBS	NGE	PGE	%REJ	SD	BIAS	RMS
01360	61.9N	7.9E	711	MS	106	0	0	0	0.7	5.8	5.8
04208	74.0N	57.8W	40	MS	109	109	100	0			
04330	74.3N	20.2W	44	MS	109	0	0	0	0.6	-5.2	5.2
04416	72.6N	38.4W	3202	S	97	2	2	2	0.8	5.3	5.4
06239	54.9N	44.7E	49	MS	337	41	12	0	6.7	3.3	7.5
08226	40.7N	3.2W	639	MS	66	0	0	0	0.7	-5.0	5.0
08912	42.9N	0.8W	1434	MS	117	117	100	0			
08922	42.8N	0.2W	1660	MS	120	120	100	0			
10850	48.8N	10.7E	457	MS	360	0	0	0	0.4	-5.5	5.5
13269	44.3N	19.9E	176	MS	120	2	2	1	0.7	7.7	7.7
14554	44.9N	18.4E	136	S	59	1	2	0	0.9	-12.8	12.8
16204	42.9N	11.8E	816	S	41	0	0	0	0.7	4.1	4.2
16344	39.3N	16.4E	1710	S8	347	0	0	0	1.0	5.5	5.6
16538	40.1N	9.3E	1022	S	27	0	0	0	0.8	9.7	9.7
17521	35.2N	33.5E	285	MS	89	88	99	0	0.0	-0.3	0.3

ANTARCTIC:

STATION	LAT	LONG	HT(M)	RP	NOBS	NGE	PGE	%REJ	SD	BIAS	RMS
89266	72.2S	60.2W	91	S	315	314	100	0			
89272	74.8S	70.5W	1395	MS	176	175	99	0	0.0	-14.9	14.9
89610	65.9S	113.1E	90	M	314	0	0	0	1.2	-8.3	8.4
89614	66.7S	111.5E	500	S	319	319	100	0			
89661	73.5S	169.8E	200	M	422	420	100	0			
89666	76.7S	163.0E	200	S	415	0	0	0	1.6	6.3	6.5
89769	78.5S	168.4E	50	S	819	16	2	1	2.5	-5.3	5.9
89811	66.7S	112.5E	1366	S	331	0	0	0	0.9	-4.6	4.7
89815	66.6S	110.7E	63	S	318	0	0	1	2.1	-4.0	4.5

TABLE 4A

MONTHLY MONITORING OF AIRCRAFT OBSERVATIONS
MONITORING CENTRE: EXETER
MONTH: Jun 06

Monitoring procedures

Period		:One calendar month.
Data monitored		:Statistics for each airline carrier.
Area monitored		:90°N - 90°S, 180°W - 180°E.
Standard of comparison		:Background field from UKMO global model.
Observation times		:All hours combined.
Level(s) monitored		:300.0 - 150.0 hPa
Elements monitored		:TEMP in °C ; WIND in m s^{-1}
Parameters monitored	:N REP.	:Number of observations received excluding duplicates.
	:PG	:Percentage of observations with gross errors.
	:PR	:Percentage of observations rejected by quality control including rejections from the duplicate check.
	:PC	:Percentage of observations with calm winds.
	:RMS	:Root Mean Square difference of observations from background values excluding those with gross errors in Temperature & vector wind.
	:BIAS	:Mean difference of observations from background values excluding those with gross errors in Temperature & Wind Speed.
GROSS ERROR LIMITS		:10.0 °C ; 60 m s^{-1} Vector Wind
SELECTION CRITERIA		:N REP ≥ 20

	TEMPERATURE					WIND					
IDENT.	N.REP.	PG	PR	RMS	BIAS	N.REP.	PG	PR	PC	RMS	BIAS
AAH	1515	0	8	1.1	0.3	1503	0	8	0	4.3	0.4
AAL	8234	0	7	1.2	0.1	7738	0	7	0	4.7	0.4
AAR	699	0	3	1.6	-0.6	678	0	3	0	7.5	-0.3
ACA	3568	1	8	1.6	-0.1	2828	0	7	0	5.9	0.2
ACF	44	9	57	4.0	-0.2	21	5	62	0	22.4	5.9
ACI	138	0	17	1.0	0.4	134	0	16	0	6.3	-0.9
AEA	1043	0	1	1.4	0.4	894	0	3	0	7.4	0.3
AFL	671	1	5	2.0	0.2	407	0	5	0	8.9	-0.1
AFR	5324	0	3	1.2	0.1	5193	0	3	0	4.8	0.3
AFZ	39965	0	10	1.5	0.9	39965	0	10	0	5.4	0.5
AIC	41	0	5	2.4	-0.4	26	0	4	0	6.0	1.1
AJM	227	1	6	1.0	-0.3	181	0	7	0	9.0	0.3
AJX	230	0	5	1.6	1.0	228	0	7	0	7.9	-0.3
AMT	1751	0	6	1.0	-0.1	1738	0	6	0	4.4	0.1
AMX	529	1	5	1.6	0.3	460	0	4	0	7.4	0.2
ANA	39	0	8	2.0	0.5	39	0	10	0	9.7	-1.2
ANZ	7719	0	30	1.4	0.4	7673	0	30	0	6.6	-0.2
ATN	98	1	100	4.6	-3.2	85	0	4	0	8.0	0.7
AUA	561	0	1	1.1	0.2	537	0	1	0	4.2	0.8
AVA	476	1	3	1.5	0.1	474	0	3	0	7.5	-0.1
AVN	154	0	47	0.8	0.1	152	1	51	0	12.0	-1.1
AWE	971	1	2	1.1	-0.6	962	0	2	0	4.5	0.5
AXF	45	0	44	1.0	-0.1	43	0	44	0	4.7	0.3
AZA	600	0	5	1.6	0.5	490	0	6	0	8.4	0.0
BAW	753	1	24	1.8	-0.5	502	0	23	0	9.0	0.6
BBR	286	1	2	1.4	0.1	274	0	4	0	7.4	0.5
BMA	356	0	3	1.3	0.0	346	0	3	0	3.5	0.6
BPA	314	1	13	1.7	0.3	298	1	9	0	8.2	0.0
BWA	327	1	2	1.5	-0.4	263	0	1	0	5.9	0.7
CCA	198	2	9	2.4	0.7	178	0	100	0	11.8	-1.3
CES	546	1	5	1.8	-0.3	546	1	6	0	8.5	1.1
CFC	49	0	10	1.9	-0.7	47	0	6	0	8.5	1.7
CFG	841	0	4	1.5	0.1	645	0	5	0	8.1	0.0
CFY	48	0	2	1.2	-0.4	45	0	2	0	4.0	0.4
CGD	37	0	3	2.0	-0.7	35	0	6	0	6.9	0.5
CGF	689	0	1	1.3	-0.2	645	0	1	0	3.2	0.7
CGH	346	0	1	1.1	-0.1	323	0	2	0	3.1	0.3
CKK	181	1	5	1.8	0.3	180	1	5	0	8.3	-0.4
CKS	225	1	8	1.7	-0.3	177	0	8	0	8.4	0.3
CLX	301	0	5	1.6	-0.4	158	1	9	0	7.9	-0.5
CNJ	34666	0	74	1.0	0.5	34666	0	74	0	4.5	0.5
COA	4839	0	7	1.1	0.0	4611	0	6	0	4.5	0.4
CRL	143	1	4	1.4	-0.4	123	0	5	0	7.7	0.1
CSD	93	0	10	2.0	0.6	48	0	8	0	3.7	-0.1
CSN	140	0	2	1.8	0.2	139	0	4	0	9.0	0.6
CUB	302	1	6	1.7	0.8	224	0	100	0	10.2	0.1
DAB	1092	0	4	1.4	-0.3	1036	0	4	0	3.8	0.5
DAI	1079	0	6	1.3	0.1	1024	0	6	0	3.7	0.8
DAL	4892	0	27	1.7	0.5	4509	0	27	0	4.5	0.4
DLH	5591	0	5	1.2	0.0	5446	0	4	0	4.2	0.4
DRD	538	1	3	1.5	-0.6	526	0	5	0	7.4	0.6
EDW	67	0	4	1.5	-0.6	59	0	7	0	9.3	1.1
EEZ	193	3	9	2.2	0.0	143	1	9	0	10.3	0.7
EIA	287	0	5	1.9	0.1	258	0	100	0	18.3	4.3
ELY	483	0	2	1.1	0.4	444	0	2	0	5.1	0.2
ETH	58	0	14	1.4	0.0	22	0	5	0	12.1	-0.2
EVA	311	0	2	1.2	0.1	313	0	4	0	6.6	-0.2
FCA	235	0	3	1.3	0.0	187	0	4	0	10.0	0.6
FDX	739	1	30	1.2	0.1	627	0	31	0	7.7	0.1

		TEMPERATURE				WIND					
IDENT.	N.REP.	PG	PR	RMS	BIAS	N.REP.	PG	PR	PC	RMS	BIAS
FGE	31	0	3	1.5	-0.2	30	0	0	0	3.3	0.2
FGI	353	1	2	1.6	-0.1	341	0	0	0	3.9	0.6
FGL	126	0	3	1.1	0.2	122	0	3	0	3.5	0.4
FGN	32	0	6	1.3	-0.1	32	0	6	0	4.2	1.0
FGS	499	0	3	1.3	0.1	481	0	3	0	4.0	0.9
FGZ	107	0	3	1.2	-0.4	105	0	3	0	3.1	0.6
FIN	341	1	5	1.8	-0.1	290	0	4	0	7.5	0.1
FJI	891	2	34	1.9	0.6	889	0	30	0	7.5	-0.1
FOM	640	0	33	1.4	-0.3	637	0	34	0	4.9	-0.1
FWI	629	1	8	1.7	-0.5	619	0	8	0	8.5	0.9
GCO	125	0	9	1.8	0.2	108	0	6	0	7.5	0.8
GEC	495	0	24	1.6	-0.1	461	0	25	0	8.7	-0.1
GGC	47	0	2	1.7	1.1	49	0	6	0	8.4	-1.2
GLO	33	0	39	2.6	-0.5	32	0	41	0	10.4	-0.1
GOJ	209	0	2	1.3	0.4	201	0	2	0	3.6	0.7
GRL	100	0	1	1.3	0.1	97	0	3	0	7.6	0.4
GTI	124	2	8	1.8	0.4	91	0	5	0	8.6	-0.4
GVA	45	0	4	1.2	-0.1	44	0	5	0	3.2	0.8
GVB	72	0	4	1.3	-0.1	68	0	4	0	3.6	0.5
GVF	99	0	2	1.6	-0.6	95	0	2	0	4.0	1.0
GVG	48	0	2	1.6	-0.9	47	0	2	0	3.5	0.3
GVH	91	0	3	1.5	-0.4	86	0	1	0	3.8	0.1
GVL	44	0	2	1.6	-0.4	41	0	2	0	3.8	0.9
GVO	22	0	0	1.3	-0.7	20	0	0	0	3.8	1.0
GVR	230	0	2	1.4	0.0	218	0	2	0	4.1	0.4
GVS	26	0	8	1.3	-0.4	26	0	8	0	3.7	0.2
GVT	33	0	6	1.2	-0.7	33	0	6	0	3.9	0.7
GVW	80	0	4	1.5	-0.6	78	0	4	0	4.1	0.5
GWW	139	0	1	1.2	0.0	134	0	1	0	3.0	0.6
HAL	3187	0	11	1.5	0.4	3163	0	12	0	6.0	0.2
HBI	281	0	5	1.2	-0.5	274	0	5	0	3.8	0.5
HBJ	121	0	2	1.4	-0.6	115	0	3	0	4.1	1.2
HMY	36	0	8	1.2	-0.2	31	0	10	0	7.4	1.9
IBE	4532	1	5	1.5	-0.1	4421	0	5	0	7.7	0.4
ICE	1187	1	4	1.6	-0.1	711	0	2	0	5.0	0.6
ISR	83	1	6	1.6	-0.3	43	2	7	0	6.7	1.5
IWD	694	0	3	1.4	-0.2	689	0	4	0	7.1	0.7
JAL	806	0	6	1.7	0.0	799	0	7	0	8.2	-0.3
JAZ	699	0	4	1.3	0.4	698	0	5	0	7.5	0.4
JST	538	0	27	1.6	-0.5	533	0	26	0	5.4	0.0
KAC	112	0	0	1.1	0.6	109	0	0	0	4.0	-0.2
KAI	28	0	0	2.6	2.2	22	0	0	0	5.5	0.8
KAL	1221	0	3	1.6	-0.2	1214	0	3	0	6.5	0.1
KIW	59	0	44	1.1	-0.7	56	0	46	0	5.5	0.5
KLM	1733	0	8	1.5	0.0	1366	0	11	0	7.8	0.0
LAN	758	0	2	1.5	0.1	756	0	2	0	4.7	0.7
LAP	35	6	49	3.1	1.5	35	0	51	0	18.2	3.6
LCO	44	0	9	1.5	0.2	40	0	0	0	7.1	0.3
LNE	268	1	6	1.9	0.2	268	0	3	0	7.2	0.6
LNR	464	0	47	1.2	-0.2	437	0	47	0	3.6	0.5
LOT	526	1	4	1.8	-0.8	327	0	5	0	7.7	0.4
LTE	20	5	5	1.2	0.0	20	0	0	0	5.4	1.6
LTU	711	0	5	1.4	-0.2	640	0	5	0	6.0	0.7
LVG	199	0	5	1.2	-0.3	180	0	7	0	6.1	0.9
MAS	386	0	3	1.3	0.0	376	0	3	0	5.2	-0.1
MMZ	106	0	3	1.3	-0.1	105	0	6	0	8.9	0.0
MON	73	1	4	1.2	-0.3	44	0	5	0	6.6	0.6
MPD	755	1	4	1.3	0.1	709	0	5	0	7.6	0.5
MPH	263	0	7	1.6	-0.8	201	0	10	0	8.4	-0.1

		TEMPERATURE						WIND			
IDENT.	N.REP.	PG	PR	RMS	BIAS	N.REP.	PG	PR	PC	RMS	BIAS
MSR	172	0	1	1.0	0.4	170	0	1	0	4.1	0.3
MXJ	392	1	9	1.6	0.3	207	0	8	0	6.5	0.6
MYT	273	0	5	1.6	-0.2	204	0	7	0	8.1	0.4
NAO	155	0	4	1.5	-0.1	134	0	1	0	6.2	0.7
NCA	500	0	2	1.7	0.1	413	0	3	0	8.1	-0.2
NOS	207	1	5	1.3	0.2	151	1	5	0	7.3	0.9
NWA	8554	0	7	1.5	0.0	8359	0	8	0	6.9	0.2
NZL	5816	0	10	1.2	0.0	5816	0	10	0	4.4	0.1
OAE	342	1	8	1.5	0.0	230	0	11	0	9.1	1.1
OOM	217	3	12	2.0	-0.1	144	0	11	0	7.9	0.5
OYK	739	0	45	1.4	-0.2	690	0	45	0	3.3	0.5
PAC	344	0	2	1.7	-0.6	319	1	4	0	7.0	-0.6
PAL	1394	0	2	1.4	-0.2	1387	0	5	0	7.4	-0.2
PBI	1210	0	41	1.1	0.1	1203	0	42	0	6.9	-0.3
PLM	412	0	3	1.7	1.2	377	0	3	0	8.1	-0.2
PUA	20	0	50	1.8	0.1	20	0	55	0	16.5	-1.8
QFA	4108	0	49	1.3	0.0	4088	0	49	0	5.8	-0.6
RAM	722	1	4	1.5	-0.2	559	1	6	0	8.0	0.0
RCH	331	2	100	4.0	-0.4	268	0	100	0	10.5	1.2
RJA	32	0	6	2.1	-0.3	22	0	0	0	5.2	0.6
RRR	53	0	0	1.2	-0.4	51	0	8	0	8.3	-0.1
RYN	24	4	8	1.2	0.1	22	0	5	0	13.4	2.3
RZO	854	1	5	1.7	-0.5	807	0	5	0	8.0	0.8
SAA	59	2	12	1.5	-0.6	60	0	18	0	10.2	0.2
SAS	1148	0	62	1.3	-0.1	1119	0	62	0	3.9	0.5
SER	457	0	53	1.4	0.0	434	0	54	0	3.4	0.4
SEU	133	2	10	1.5	0.0	120	1	9	0	9.9	0.9
SIA	694	0	2	1.3	0.4	685	0	2	0	4.2	0.0
SLM	136	0	1	1.3	-0.2	136	1	2	0	7.3	1.0
SOO	64	5	5	1.4	0.8	64	0	3	0	7.3	1.8
SQC	276	0	2	1.2	-0.2	275	0	1	0	4.9	-0.4
SSV	56	0	2	1.3	0.0	46	0	4	0	8.0	0.0
SVH	560	0	5	1.1	0.9	560	0	5	0	3.3	-0.1
SWR	1726	0	5	1.2	-0.6	1691	0	4	0	4.1	0.6
TAG	44	7	14	2.2	-0.4	24	0	4	0	7.9	1.1
TAM	44	0	34	2.4	-0.1	44	0	34	0	12.8	2.7
TAP	1120	1	3	1.5	-0.3	1017	0	4	0	7.9	0.3
TCV	69	0	100	3.7	3.5	69	0	9	0	10.1	0.5
TCX	300	0	5	1.3	0.0	262	0	4	0	4.5	0.9
TFL	165	0	5	1.2	-0.3	131	1	38	0	9.0	0.9
THA	220	0	8	1.3	0.5	220	0	8	0	3.9	-0.4
THT	1806	0	25	1.1	0.3	1774	0	26	0	7.5	-2.3
TOM	428	0	7	1.4	-0.2	399	0	6	0	7.5	0.1
TSC	574	2	8	1.9	-0.7	348	0	2	0	6.4	0.2
TUB	104	1	8	1.1	0.0	77	0	8	0	7.2	-0.3
UAE	1123	0	6	1.4	0.4	1110	0	6	0	4.1	0.1
UAL	10894	0	19	1.2	0.0	10841	0	20	0	5.1	0.5
UPS	1415	0	52	1.6	0.1	990	0	51	0	6.0	0.5
USA	1874	0	3	1.1	-0.1	1801	0	3	0	4.4	0.4
VHO	23	0	13	1.4	0.0	23	0	13	0	6.8	1.7
VIR	2259	0	3	1.2	-0.1	2190	0	3	0	4.3	0.2
VRG	31	6	35	3.4	-0.3	31	0	29	0	9.4	1.1
VVJ	34	0	3	1.7	-0.8	34	0	0	0	5.7	0.7
VVR	84	15	17	1.5	0.1	83	0	1	0	5.8	0.3
WHT	136	0	5	1.2	-0.1	123	0	7	0	8.4	-0.3
WOA	170	2	6	1.1	-0.1	158	0	8	0	9.7	-0.9
XLA	120	0	4	1.4	-0.3	111	1	6	0	7.0	1.0
ZKN	156	0	1	1.4	0.1	147	0	1	0	4.4	1.1
ZKS	27	0	0	1.2	0.0	23	0	0	0	4.2	-0.4
9VS	83	0	1	1.2	-0.1	83	0	1	0	4.6	0.5

		TEMPERATURE						WIND			
IDENT.	N.REP.	PG	PR	RMS	BIAS	N.REP.	PG	PR	PC	RMS	BIAS
AU	53341	0	17	1.1	0.4	53349	0	17	0	4.9	0.3
B-	4399	2	28	1.1	0.1	429	20	78	0	25.3	5.6
EU	316117	0	28	1.2	0.2	316117	0	27	0	4.3	0.3
HK	7898	0	9	1.1	0.1	7898	0	9	0	5.0	0.2
JP	59601	0	65	1.4	0.7	59601	0	64	0	5.4	0.4
MK	3165	0	5	1.7	1.5	3165	0	5	0	6.5	1.4
SA	4154	0	12	1.0	0.2	4154	0	12	0	5.0	0.6
UA	334852	0	99	1.0	-0.1	334560	0	99	0	4.7	0.5

		TEMPERATURE						WIND			
IDENT.	N.REP.	PG	PR	RMS	BIAS	N.REP.	PG	PR	PC	RMS	BIAS
N	6839	0	13	1.5	-0.2	6419	0	13	0	4.1	0.6
S	43	0	2	1.4	-0.2	42	0	0	0	4.0	0.5
US AMDAR	1253365	0	67	1.1	0.3	1253340	0	67	0	5.0	0.6

TABLE 4B

MONTHLY MONITORING OF AIRCRAFT OBSERVATIONS
MONITORING CENTRE: EXETER
MONTH: Jun 06

Monitoring procedures

Period :One calendar month.

Data monitored :Statistics for each airline carrier.

Area monitored :90°N - 90°S, 180°W - 180°E.

Standard of comparison :Background field from UKMO global model.

Observation times :All hours combined.

Level(s) monitored :1000.0 – 300.1 hPa

Elements monitored :TEMP in °C ; WIND in m s^{-1}

Parameters monitored

:N REP. :Number of observations received excluding duplicates.

:PG :Percentage of observations with gross errors.

:PR :Percentage of observations rejected by quality control including rejections from the duplicate check.

:PC :Percentage of observations with calm winds.

:RMS :Root Mean Square difference of observations from background values excluding those with gross errors in Temperature & vector wind.

:BIAS :Mean difference of observations from background values excluding those with gross errors in Temperature & Wind Speed.

GROSS ERROR LIMITS :10.0 °C ; 60 m s^{-1} Vector Wind

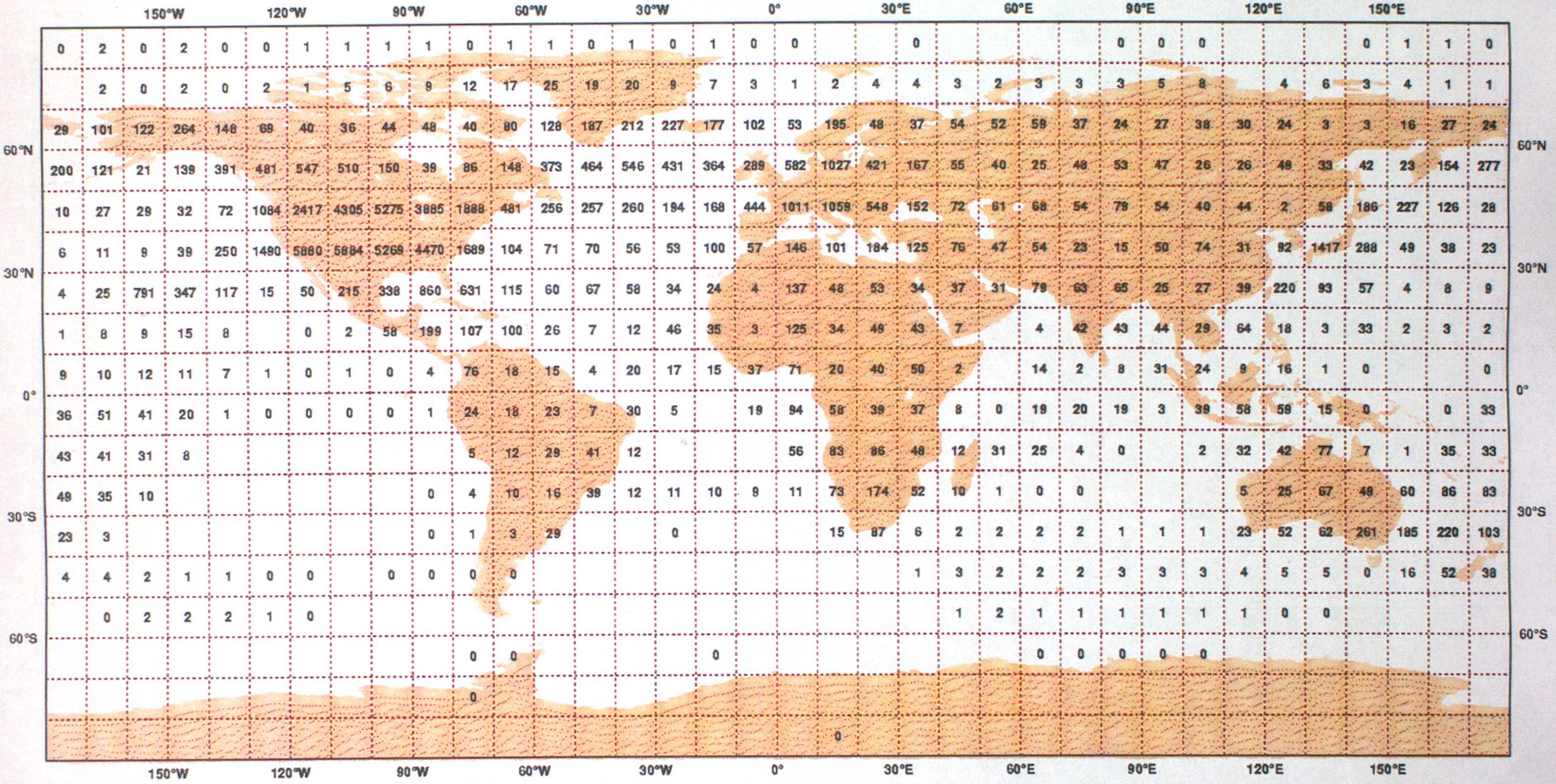
SELECTION CRITERIA :N REP ≥ 20

	TEMPERATURE					WIND					
IDENT.	N.REP.	PG	PR	RMS	BIAS	N.REP.	PG	PR	PC	RMS	BIAS
AAL	42	2	12	0.9	-0.1	31	0	19	0	8.3	1.1
ACA	28	0	25	1.7	0.1	25	0	28	0	5.6	-1.1
AFP	24	0	0	2.6	1.2	24	0	0	0	5.2	1.4
AFR	38	3	16	1.0	0.1	37	0	11	0	4.8	-1.0
AFZ	44095	0	67	1.3	-0.4	44095	0	67	0	3.9	0.3
ANZ	342	1	17	1.4	0.3	348	0	17	0	4.8	0.1
AXF	21	0	57	1.4	0.9	21	0	57	0	6.8	0.2
CFC	71	3	7	1.7	0.6	57	2	11	0	8.9	-0.3
CKS	41	0	5	1.3	0.0	20	0	15	0	12.8	-1.8
CNJ	762374	0	85	1.8	0.6	762374	0	85	0	4.7	0.1
COA	40	3	8	1.5	0.0	38	0	8	0	3.5	1.2
DAL	113	0	26	1.6	0.7	96	0	30	0	5.7	1.1
FDX	461	0	34	1.7	0.1	247	0	32	0	6.8	0.7
FIN	31	0	0	1.2	0.1	28	0	4	0	6.6	0.6
FJI	28	0	54	3.5	1.4	28	0	43	0	13.1	2.4
FXI	51	4	8	1.8	0.1	51	0	4	0	6.8	1.4
GAF	92	4	10	0.9	0.2	31	0	16	0	8.6	-0.9
GCO	57	0	9	1.4	-0.2	52	0	6	0	8.8	0.1
GEC	138	1	33	1.3	0.1	133	1	29	0	7.2	0.0
HAL	74	1	12	1.1	0.1	74	0	12	0	4.7	1.3
ICE	57	2	5	2.1	-0.5	23	0	0	0	5.8	1.4
JAL	46	2	13	1.7	-0.1	46	0	13	0	7.5	0.2
JKK	48	2	19	2.7	-1.3	47	0	15	0	11.5	-1.4
KAL	41	0	0	1.5	0.0	41	0	0	0	4.6	1.0
KIW	54	0	28	2.7	1.2	54	0	28	0	8.0	0.2
KLM	38	0	5	1.1	0.3	22	0	9	0	9.6	-2.9
LAN	55	2	4	1.0	0.4	55	0	4	0	4.8	0.3
MAS	40	0	5	1.0	-0.1	41	0	5	0	4.8	0.7
NCA	49	0	4	2.0	-0.2	49	0	4	0	8.8	-0.7
NWA	211	1	9	1.7	-0.2	207	0	8	0	6.9	-0.5
NZL	22869	0	56	0.9	0.2	22869	0	56	0	4.4	-0.1
OAE	51	0	10	1.8	-0.2	24	0	25	0	13.0	3.3
OCE	20	0	5	2.7	2.0	20	0	0	0	5.6	0.5
PAL	64	2	2	0.8	-0.5	62	0	5	0	7.6	2.0
QFA	91	0	34	1.5	0.0	96	0	34	0	4.9	-0.7
RRR	83	6	18	2.7	0.7	75	0	5	0	8.9	0.9
SIA	119	0	1	1.0	0.5	118	0	1	0	4.3	0.8
SQC	22	0	0	0.9	0.3	22	0	0	0	5.6	0.5
SVH	30752	0	60	1.7	0.7	30752	0	60	0	4.4	0.6
THA	28	0	7	1.1	0.9	28	0	7	0	3.6	0.1
THT	169	0	53	0.9	0.3	143	0	47	0	4.8	-1.2
TOM	35	3	3	0.7	-0.3	35	0	0	0	4.0	0.4
UAE	99	0	6	1.1	0.5	99	0	7	0	4.1	0.6
UAL	109	10	29	1.1	0.0	114	1	25	0	5.7	0.3
UPS	247	1	55	1.4	-0.3	146	1	58	0	8.6	-0.5
VVP	26	0	8	3.3	1.3	26	0	4	0	10.6	3.0
VVR	42	10	14	2.2	1.6	61	0	11	0	8.3	1.5
WOA	46	0	0	1.0	-0.1	28	0	32	0	16.0	3.5

	TEMPERATURE					WIND					
IDENT.	N.REP.	PG	PR	RMS	BIAS	N.REP.	PG	PR	PC	RMS	BIAS
AU	63124	0	62	1.0	0.5	63249	0	62	0	3.7	0.2
B-	6210	0	27	1.3	-0.1	447	12	83	0	25.1	10.2
EU	706616	0	67	1.0	0.0	702461	0	66	0	3.5	0.1
HK	23759	0	87	1.2	0.0	23759	0	87	0	4.0	0.5
JP	291900	0	81	1.2	0.2	291900	0	81	0	4.0	0.5
MK	2355	0	53	1.2	0.5	2355	0	53	0	4.6	0.6
SA	3617	0	71	1.2	0.2	3617	0	71	0	3.8	0.3
UA	273852	0	99	1.0	-0.2	273499	0	99	0	3.9	0.5

	TEMPERATURE					WIND					
IDENT.	N.REP.	PG	PR	RMS	BIAS	N.REP.	PG	PR	PC	RMS	BIAS
N	51	2	12	2.0	0.5	38	0	5	0	5.5	0.5
US AMDAR	1965848	0	81	1.1	0.1	1961033	0	82	0	3.9	0.4

Figure 3a. AIRCRAFT 300 - 150 hPa mean daily count. JUNE 2006
Observations with O-B vector difference greater than 60 ms-1 excluded
Global average number of observations in 24 hours = 74939



0	2	0	2	0	0	1	1	1	1	0	1	1	0	1	0	1	0	0			0					0	0	0				0	1	1	0
	2	0	2	0	2	1	5	6	9	12	17	25	19	20	9	7	3	1	2	4	4	3	2	3	3	3	5	8		4	6	3	4	1	1
29	101	122	264	148	69	40	36	44	48	40	80	128	187	212	227	177	102	53	195	48	37	54	52	59	37	24	27	38	30	24	3	3	16	27	24
200	121	21	139	391	481	547	510	150	39	86	148	373	464	546	431	364	289	582	1027	421	167	55	40	25	48	53	47	26	26	49	33	42	23	154	277
10	27	29	32	72	1084	2417	4305	5275	3885	1888	481	256	257	260	194	168	444	1011	1059	548	152	72	61	68	54	79	54	40	44	2	58	186	227	126	28
6	11	9	39	250	1490	5880	5884	5269	4470	1689	104	71	70	56	53	100	57	146	101	184	125	76	47	54	23	15	50	74	31	92	1417	288	49	38	23
4	25	791	347	117	15	50	215	338	860	631	115	60	67	58	34	24	4	137	48	53	34	37	31	79	63	65	25	27	39	220	93	57	4	8	9
1	8	9	15	8		0	2	58	199	107	100	26	7	12	46	35	3	125	34	49	43	7		4	42	43	44	29	64	18	3	33	2	3	2
9	10	12	11	7	1	0	1	0	4	76	18	15	4	20	17	15	37	71	20	40	50	2		14	2	8	31	24	9	16	1	0			0
36	51	41	20	1	0	0	0	0	1	24	18	23	7	30	5		19	94	58	39	37	8	0	19	20	19	3	39	58	59	15	0		0	33
43	41	31	8							5	12	29	41	12				56	83	86	48	12	31	25	4	0		2	32	42	77	7	1	35	33
49	35	10							0	4	10	16	39	12	11	10	9	11	73	174	52	10	1	0	0				5	25	67	49	60	86	83
23	3								0	1	3	29			0				15	87	6	2	2	2	2	1	1	1	23	52	62	261	185	220	103
4	4	2	1	1	0	0		0	0	0	0										1	3	2	2	2	3	3	3	4	5	5	0	16	52	38
	0	2	2	2	1	0																1	2	1	1	1	1	1	1	0	0				
										0	0					0								0	0	0	0	0							
										0																									
																			0																

Figure 3b. AIRCRAFT 1000 - 301 hPa mean daily count. JUNE 2006
Observations with O-B vector difference greater than 60 ms-1 excluded
Global average number of observations in 24 hours = 139512

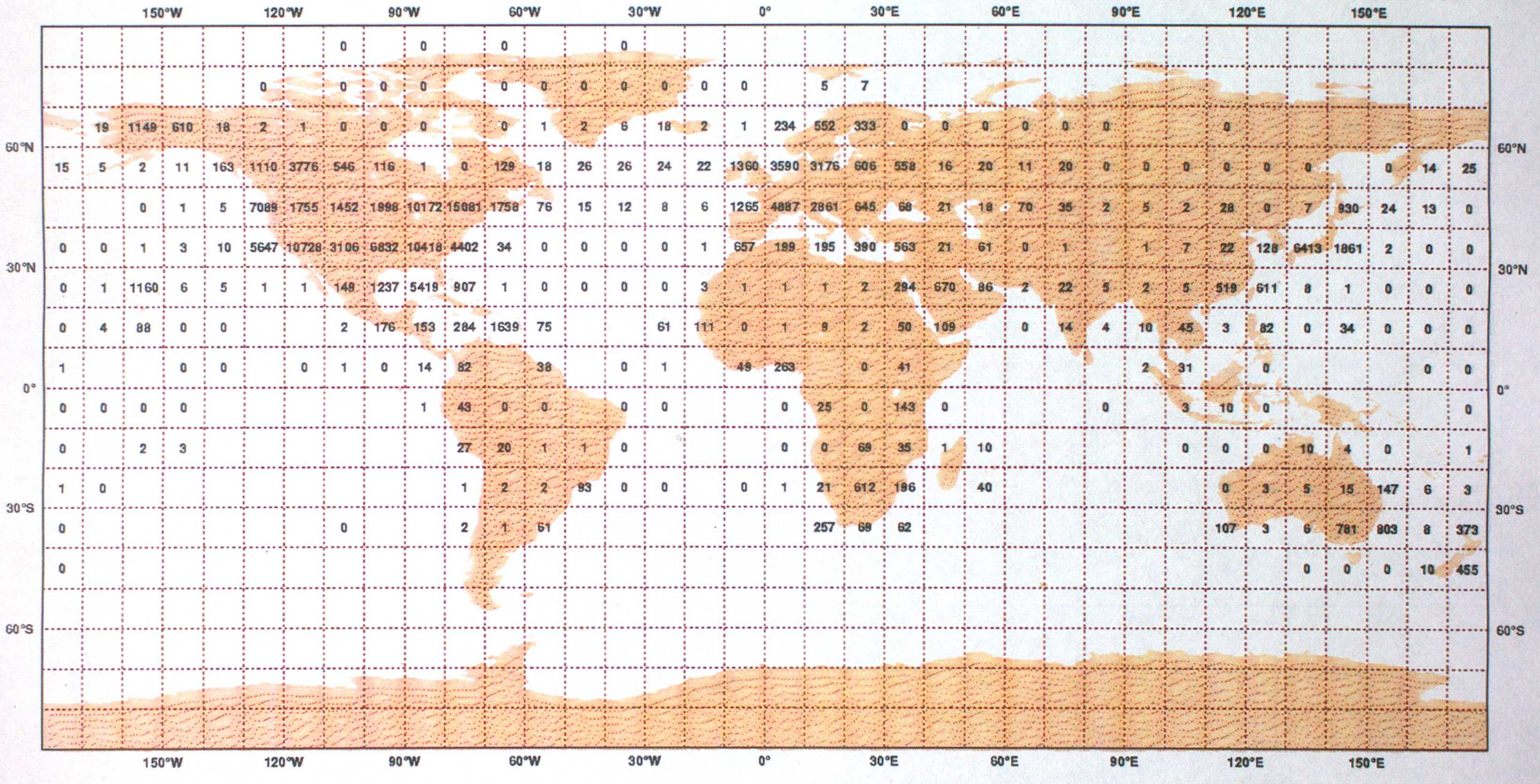

150°W
120°W
90°W
60°W
30°W
0°
30°E
60°E
90°E
120°E
150°E
60°N
30°N
0°
30°S
60°S
0 0 0 0
0 0 0 0 0 0 0 0 0 0 0 5 7
19 1149 610 18 2 1 0 0 0 0 1 2 6 18 2 1 234 552 333 0 0 0 0 0 0 0
15 5 2 11 163 1110 3776 546 116 1 0 129 18 26 26 24 22 1360 3590 3176 606 558 16 20 11 20 0 0 0 0 0 0 0 14 25
0 1 5 7089 1755 1452 1998 10172 15081 1758 76 15 12 8 6 1265 4887 2861 645 68 21 18 70 35 2 5 2 28 0 7 930 24 13 0
0 0 1 3 10 5647 10728 3106 6832 10418 4402 34 0 0 0 0 1 657 199 195 390 563 21 61 0 1 1 7 22 128 6413 1861 2 0 0
0 1 1160 6 5 1 1 148 1237 5419 907 1 0 0 0 0 3 1 1 1 2 294 670 86 2 22 5 2 5 519 611 8 1 0 0 0
0 4 88 0 0 2 176 153 284 1639 75 61 111 0 1 8 2 50 109 0 14 4 10 45 3 82 0 34 0 0 0
1 0 0 0 1 0 14 82 38 0 1 49 263 0 41 2 31 0 0 0
0 0 0 0 1 43 0 0 0 0 0 25 0 143 0 0 3 10 0 0
0 2 3 27 20 1 1 0 0 0 69 35 1 10 0 0 0 10 4 0 1
1 0 1 2 2 93 0 0 0 1 21 612 196 40 0 3 5 15 147 6 3
0 0 2 1 61 257 69 62 107 3 6 781 803 8 373
0 0 0 0 10 455

Figure 4a. AIRCRAFT 300 - 150 hPa mean winds. JUNE 2006
Observations with O-B vector difference greater than 60 ms-1 excluded
Arrows are plotted where greater than 30 obs are present

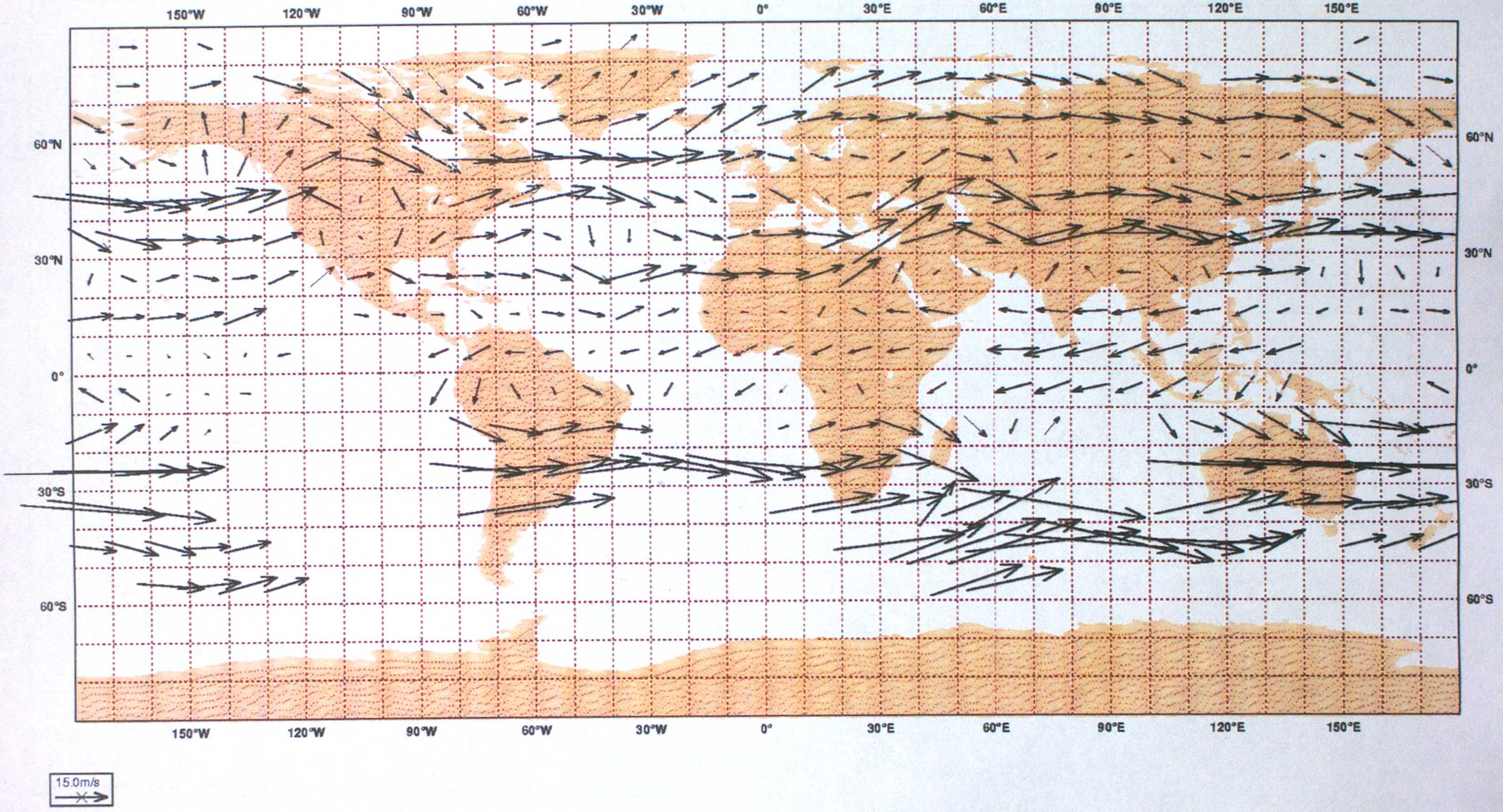

150°W
120°W
90°W
60°W
30°W
0°
30°E
60°E
90°E
120°E
150°E
60°N
30°N
0°
30°S
60°S
15.0m/s

Figure 4b. AIRCRAFT 1000 - 301 hPa mean winds. JUNE 2006
Observations with O-B vector difference greater than 60 ms-1 excluded
Arrows are plotted where greater than 30 obs are present

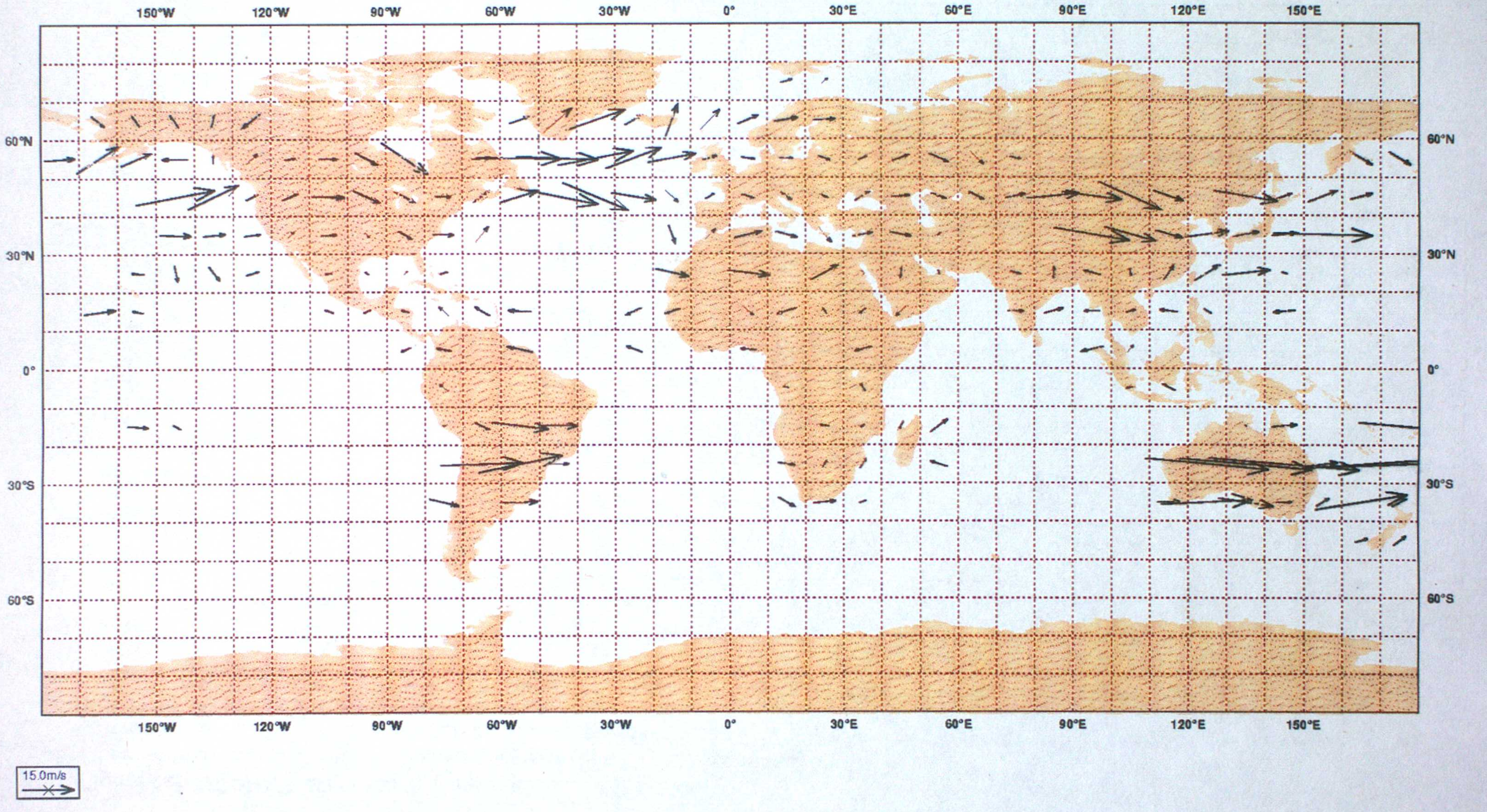

150°W
120°W
90°W
60°W
30°W
0°
30°E
60°E
90°E
120°E
150°E
60°N
30°N
0°
30°S
60°S
15.0m/s

Figure 5a. AIRCRAFT 300 - 150 hPa mean O-B winds. JUNE 2006
Observations with O-B vector difference greater than 60 ms-1 excluded
Arrows are plotted where greater than 30 obs are present

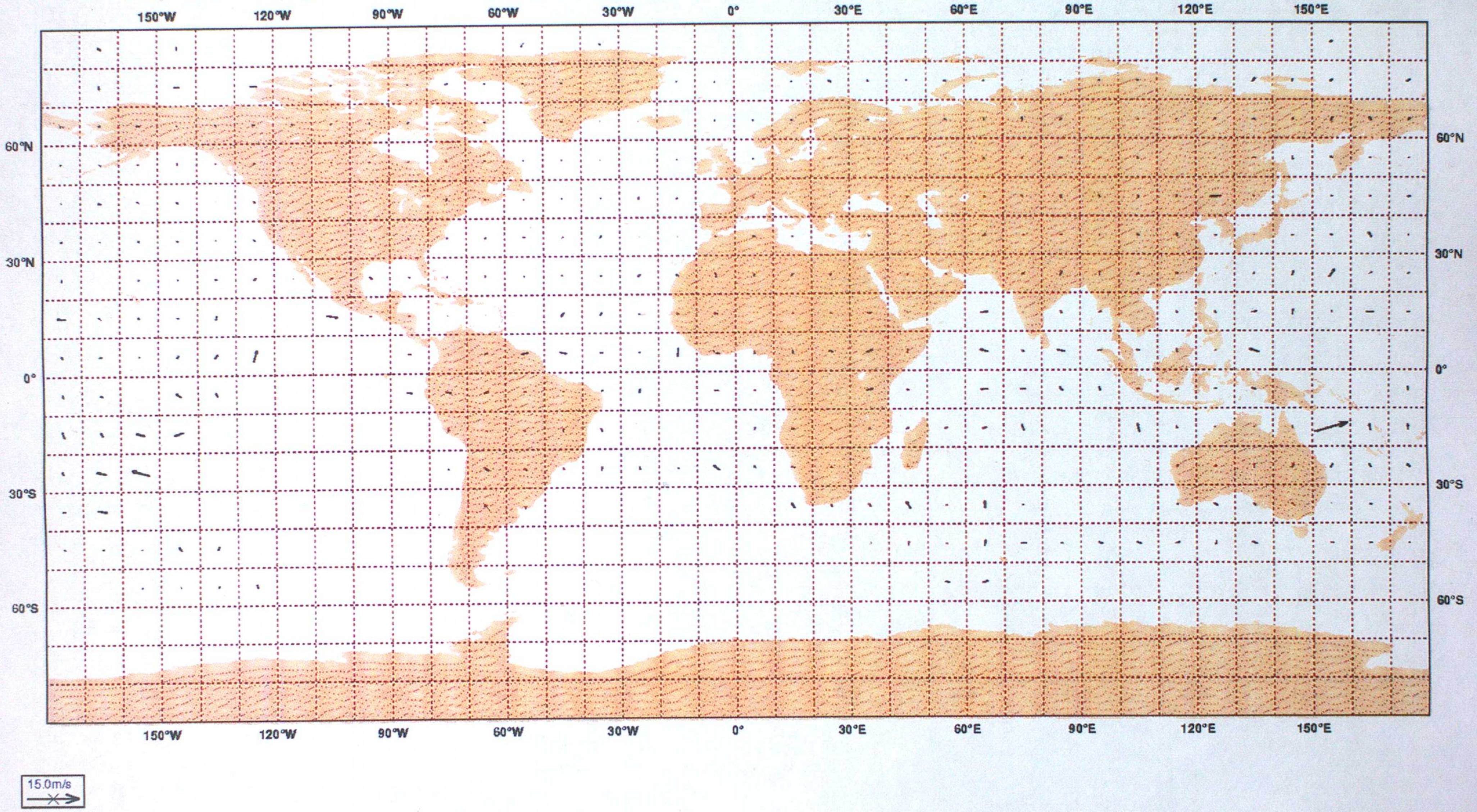

150°W
120°W
90°W
60°W
30°W
0°
30°E
60°E
90°E
120°E
150°E
60°N
30°N
0°
30°S
60°S
15.0m/s

Figure 5b. AIRCRAFT 1000 - 301 hPa mean O-B winds. JUNE 2006
Observations with O-B vector difference greater than 60 ms-1 excluded
Arrows are plotted where greater than 30 obs are present

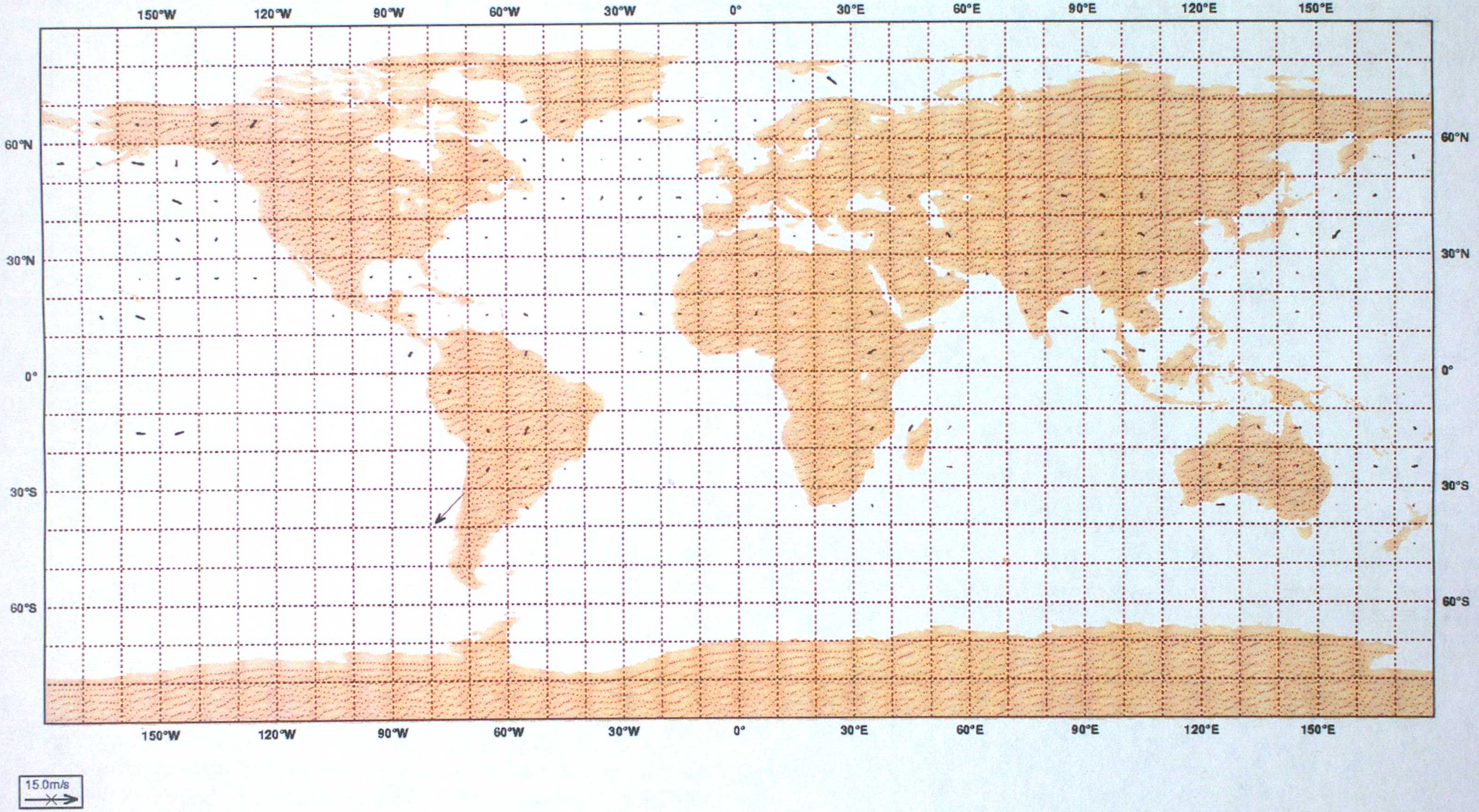

150°W
120°W
90°W
60°W
30°W
0°
30°E
60°E
90°E
120°E
150°E
60°N
30°N
0°
30°S
60°S
15.0m/s

Figure 6a. AIRCRAFT 300 - 150 hPa mean O-B speeds (ms-1). JUNE 2006
Observations with O-B vector difference greater than 60 ms-1 excluded
Values are printed where greater than 30 obs are present

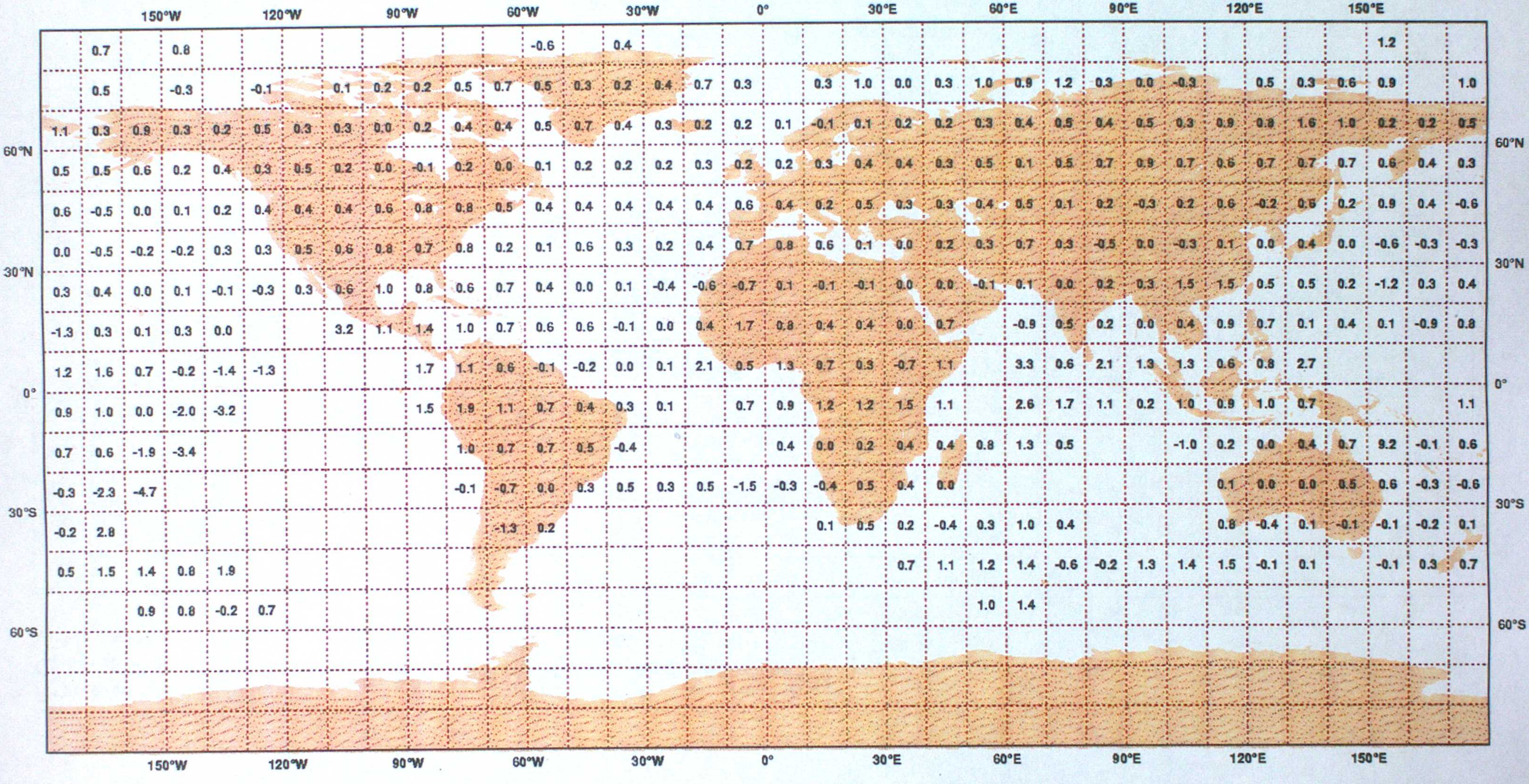

150°W
120°W
90°W
60°W
30°W
0°
30°E
60°E
90°E
120°E
150°E
60°N
30°N
0°
30°S
60°S
0.7 0.8 -0.6 0.4 1.2
0.5 -0.3 -0.1 0.1 0.2 0.2 0.5 0.7 0.5 0.3 0.2 0.4 0.7 0.3 0.3 1.0 0.0 0.3 1.0 0.9 1.2 0.3 0.0 -0.3 0.5 0.3 0.6 0.9 1.0
1.1 0.3 0.9 0.3 0.2 0.5 0.3 0.3 0.0 0.2 0.4 0.4 0.5 0.7 0.4 0.3 0.2 0.2 0.1 -0.1 0.1 0.2 0.2 0.3 0.4 0.5 0.4 0.5 0.3 0.9 0.8 1.6 1.0 0.2 0.2 0.5
0.5 0.5 0.6 0.2 0.4 0.3 0.5 0.2 0.0 -0.1 0.2 0.0 0.1 0.2 0.2 0.2 0.3 0.2 0.2 0.3 0.4 0.4 0.3 0.5 0.1 0.5 0.7 0.9 0.7 0.6 0.7 0.7 0.7 0.6 0.4 0.3
0.6 -0.5 0.0 0.1 0.2 0.4 0.4 0.4 0.6 0.8 0.8 0.5 0.4 0.4 0.4 0.4 0.4 0.6 0.4 0.2 0.5 0.3 0.3 0.4 0.5 0.1 0.2 -0.3 0.2 0.6 -0.2 0.6 0.2 0.9 0.4 -0.6
0.0 -0.5 -0.2 -0.2 0.3 0.3 0.5 0.6 0.8 0.7 0.8 0.2 0.1 0.6 0.3 0.2 0.4 0.7 0.8 0.6 0.1 0.0 0.2 0.3 0.7 0.3 -0.5 0.0 -0.3 0.1 0.0 0.4 0.0 -0.6 -0.3 -0.3
0.3 0.4 0.0 0.1 -0.1 -0.3 0.3 0.6 1.0 0.8 0.6 0.7 0.4 0.0 0.1 -0.4 -0.6 -0.7 0.1 -0.1 -0.1 0.0 0.0 -0.1 0.1 0.0 0.2 0.3 1.5 1.5 0.5 0.5 0.2 -1.2 0.3 0.4
-1.3 0.3 0.1 0.3 0.0 3.2 1.1 1.4 1.0 0.7 0.6 0.6 -0.1 0.0 0.4 1.7 0.8 0.4 0.4 0.0 0.7 -0.9 0.5 0.2 0.0 0.4 0.9 0.7 0.1 0.4 0.1 -0.9 0.8
1.2 1.6 0.7 -0.2 -1.4 -1.3 1.7 1.1 0.6 -0.1 -0.2 0.0 0.1 2.1 0.5 1.3 0.7 0.3 -0.7 1.1 3.3 0.6 2.1 1.3 1.3 0.6 0.8 2.7
0.9 1.0 0.0 -2.0 -3.2 1.5 1.9 1.1 0.7 0.4 0.3 0.1 0.7 0.9 1.2 1.2 1.5 1.1 2.6 1.7 1.1 0.2 1.0 0.9 1.0 0.7 1.1
0.7 0.6 -1.9 -3.4 1.0 0.7 0.7 0.5 -0.4 0.4 0.0 0.2 0.4 0.4 0.8 1.3 0.5 -1.0 0.2 0.0 0.4 0.7 9.2 -0.1 0.6
-0.3 -2.3 -4.7 -0.1 -0.7 0.0 0.3 0.5 0.3 0.5 -1.5 -0.3 -0.4 0.5 0.4 0.0 0.1 0.0 0.0 0.5 0.6 -0.3 -0.6
-0.2 2.8 -1.3 0.2 0.1 0.5 0.2 -0.4 0.3 1.0 0.4 0.8 -0.4 0.1 -0.1 -0.1 -0.2 0.1
0.5 1.5 1.4 0.8 1.9 0.7 1.1 1.2 1.4 -0.6 -0.2 1.3 1.4 1.5 -0.1 0.1 -0.1 0.3 0.7
0.9 0.8 -0.2 0.7 1.0 1.4

Figure 6b. AIRCRAFT 1000 - 301 hPa mean O-B speeds (ms-1). JUNE 2006
Observations with O-B vector difference greater than 60 ms-1 excluded
Values are printed where greater than 30 obs are present

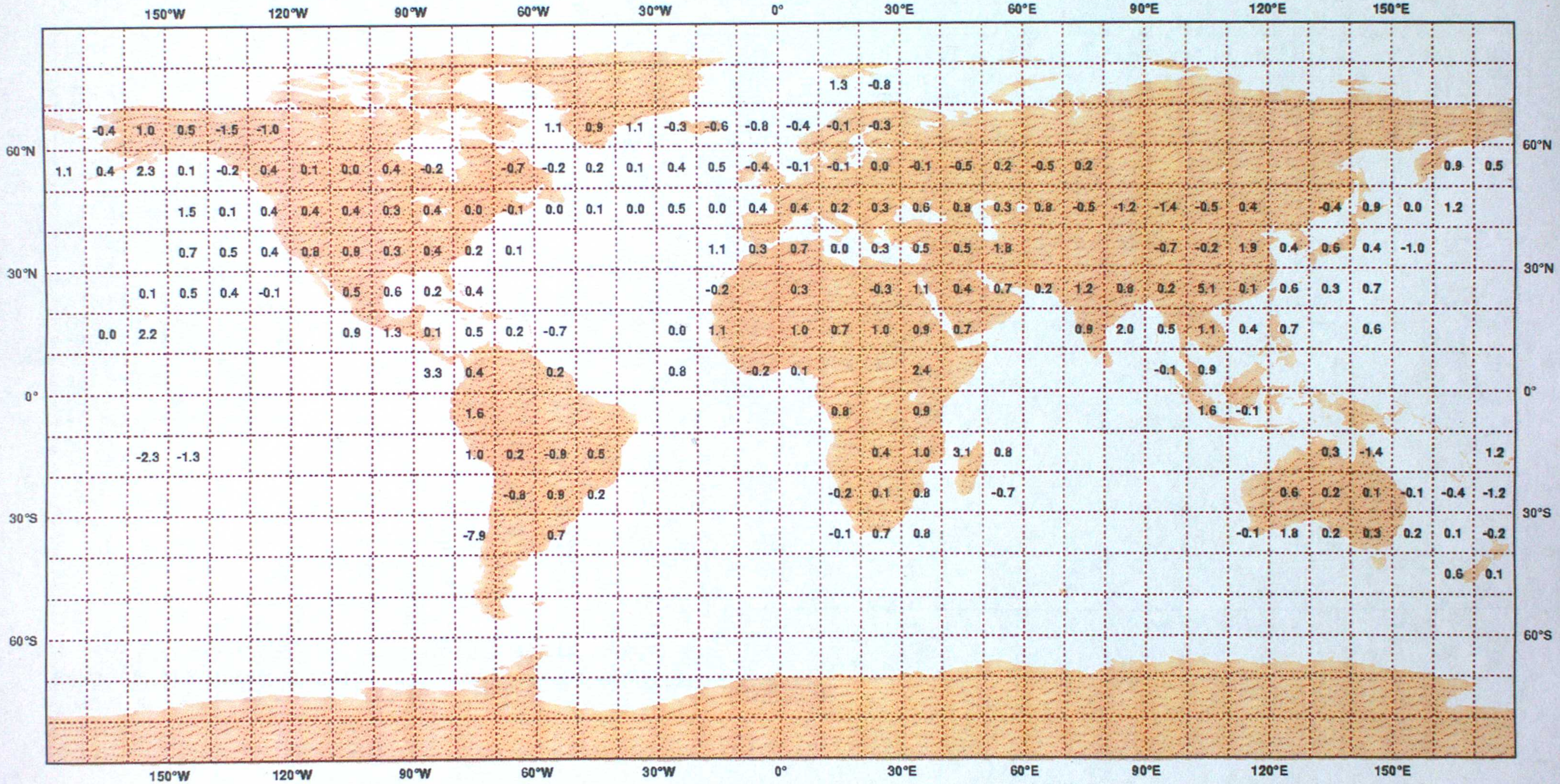

150°W
120°W
90°W
60°W
30°W
0°
30°E
60°E
90°E
120°E
150°E
60°N
30°N
0°
30°S
60°S
1.3 -0.8
-0.4 1.0 0.5 -1.5 -1.0 1.1 0.9 1.1 -0.3 -0.6 -0.8 -0.4 -0.1 -0.3
1.1 0.4 2.3 0.1 -0.2 0.4 0.1 0.0 0.4 -0.2 -0.7 -0.2 0.2 0.1 0.4 0.5 -0.4 -0.1 -0.1 0.0 -0.1 -0.5 0.2 -0.5 0.2 0.9 0.5
1.5 0.1 0.4 0.4 0.4 0.3 0.4 0.0 -0.1 0.0 0.1 0.0 0.5 0.0 0.4 0.4 0.2 0.3 0.6 0.8 0.3 0.8 -0.5 -1.2 -1.4 -0.5 0.4 -0.4 0.9 0.0 1.2
0.7 0.5 0.4 0.8 0.8 0.3 0.4 0.2 0.1 1.1 0.3 0.7 0.0 0.3 0.5 0.5 1.8 -0.7 -0.2 1.9 0.4 0.6 0.4 -1.0
0.1 0.5 0.4 -0.1 0.5 0.6 0.2 0.4 -0.2 0.3 -0.3 1.1 0.4 0.7 0.2 1.2 0.8 0.2 5.1 0.1 0.6 0.3 0.7
0.0 2.2 0.9 1.3 0.1 0.5 0.2 -0.7 0.0 1.1 1.0 0.7 1.0 0.9 0.7 0.9 2.0 0.5 1.1 0.4 0.7 0.6
3.3 0.4 0.2 0.8 -0.2 0.1 2.4 -0.1 0.9
1.6 0.8 0.9 1.6 -0.1
-2.3 -1.3 1.0 0.2 -0.9 0.5 0.4 1.0 3.1 0.8 0.3 -1.4 1.2
-0.8 0.9 0.2 -0.2 0.1 0.8 -0.7 0.6 0.2 0.1 -0.1 -0.4 -1.2
-7.9 0.7 -0.1 0.7 0.8 -0.1 1.8 0.2 0.3 0.2 0.1 -0.2
0.6 0.1

Figure 7a. AIRCRAFT 300 - 150 hPa RMS O-B vector (ms-1). JUNE 2006
Observations with O-B vector difference greater than 60 ms-1 excluded
Values are printed where greater than 30 obs are present

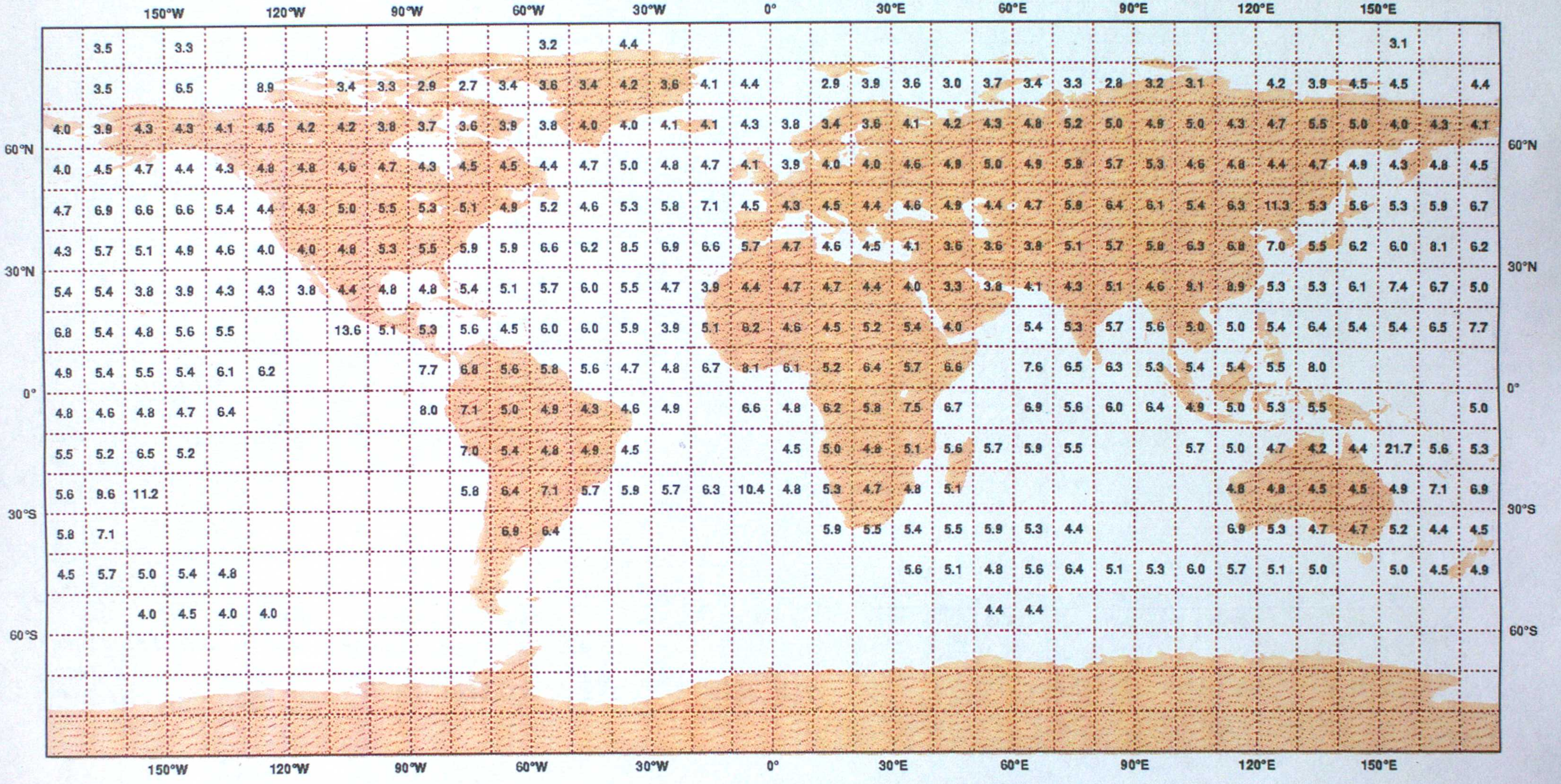

150°W
120°W
90°W
60°W
30°W
0°
30°E
60°E
90°E
120°E
150°E
60°N
30°N
0°
30°S
60°S
3.5 3.3 3.2 4.4 3.1
3.5 6.5 8.9 3.4 3.3 2.9 2.7 3.4 3.6 3.4 4.2 3.6 4.1 4.4 2.9 3.9 3.6 3.0 3.7 3.4 3.3 2.8 3.2 3.1 4.2 3.9 4.5 4.5 4.4
4.0 3.9 4.3 4.3 4.1 4.5 4.2 4.2 3.8 3.7 3.6 3.9 3.8 4.0 4.0 4.1 4.1 4.3 3.8 3.4 3.6 4.1 4.2 4.3 4.8 5.2 5.0 4.9 5.0 4.3 4.7 5.5 5.0 4.0 4.3 4.1
4.0 4.5 4.7 4.4 4.3 4.8 4.8 4.6 4.7 4.3 4.5 4.5 4.4 4.7 5.0 4.8 4.7 4.1 3.9 4.0 4.0 4.6 4.9 5.0 4.9 5.9 5.7 5.3 4.6 4.8 4.4 4.7 4.9 4.3 4.8 4.5
4.7 6.9 6.6 6.6 5.4 4.4 4.3 5.0 5.5 5.3 5.1 4.9 5.2 4.6 5.3 5.8 7.1 4.5 4.3 4.5 4.4 4.6 4.9 4.4 4.7 5.9 6.4 6.1 5.4 6.3 11.3 5.3 5.6 5.3 5.9 6.7
4.3 5.7 5.1 4.9 4.6 4.0 4.0 4.8 5.3 5.5 5.9 5.9 6.6 6.2 8.5 6.9 6.6 5.7 4.7 4.6 4.5 4.1 3.6 3.6 3.8 5.1 5.7 5.8 6.3 6.8 7.0 5.5 6.2 6.0 8.1 6.2
5.4 5.4 3.8 3.9 4.3 4.3 3.8 4.4 4.8 4.8 5.4 5.1 5.7 6.0 5.5 4.7 3.9 4.4 4.7 4.7 4.4 4.0 3.3 3.8 4.1 4.3 5.1 4.6 9.1 8.9 5.3 5.3 6.1 7.4 6.7 5.0
6.8 5.4 4.8 5.6 5.5 13.6 5.1 5.3 5.6 4.5 6.0 6.0 5.9 3.9 5.1 8.2 4.6 4.5 5.2 5.4 4.0 5.4 5.3 5.7 5.6 5.0 5.0 5.4 6.4 5.4 5.4 6.5 7.7
4.9 5.4 5.5 5.4 6.1 6.2 7.7 6.8 5.6 5.8 5.6 4.7 4.8 6.7 8.1 6.1 5.2 6.4 5.7 6.6 7.6 6.5 6.3 5.3 5.4 5.4 5.5 8.0
4.8 4.6 4.8 4.7 6.4 8.0 7.1 5.0 4.9 4.3 4.6 4.9 6.6 4.8 6.2 5.8 7.5 6.7 6.9 5.6 6.0 6.4 4.9 5.0 5.3 5.5 5.0
5.5 5.2 6.5 5.2 7.0 5.4 4.8 4.9 4.5 4.5 5.0 4.8 5.1 5.6 5.7 5.9 5.5 5.7 5.0 4.7 4.2 4.4 21.7 5.6 5.3
5.6 9.6 11.2 5.8 6.4 7.1 5.7 5.9 5.7 6.3 10.4 4.8 5.3 4.7 4.8 5.1 4.8 4.8 4.5 4.5 4.9 7.1 6.9
5.8 7.1 6.9 6.4 5.9 5.5 5.4 5.5 5.9 5.3 4.4 6.9 5.3 4.7 4.7 5.2 4.4 4.5
4.5 5.7 5.0 5.4 4.8 5.6 5.1 4.8 5.6 6.4 5.1 5.3 6.0 5.7 5.1 5.0 5.0 4.5 4.9
4.0 4.5 4.0 4.0 4.4 4.4

Figure 7b. AIRCRAFT 1000 - 301 hPa RMS O-B vector (ms-1). JUNE 2006
Observations with O-B vector difference greater than 60 ms-1 excluded
Values are printed where greater than 30 obs are present

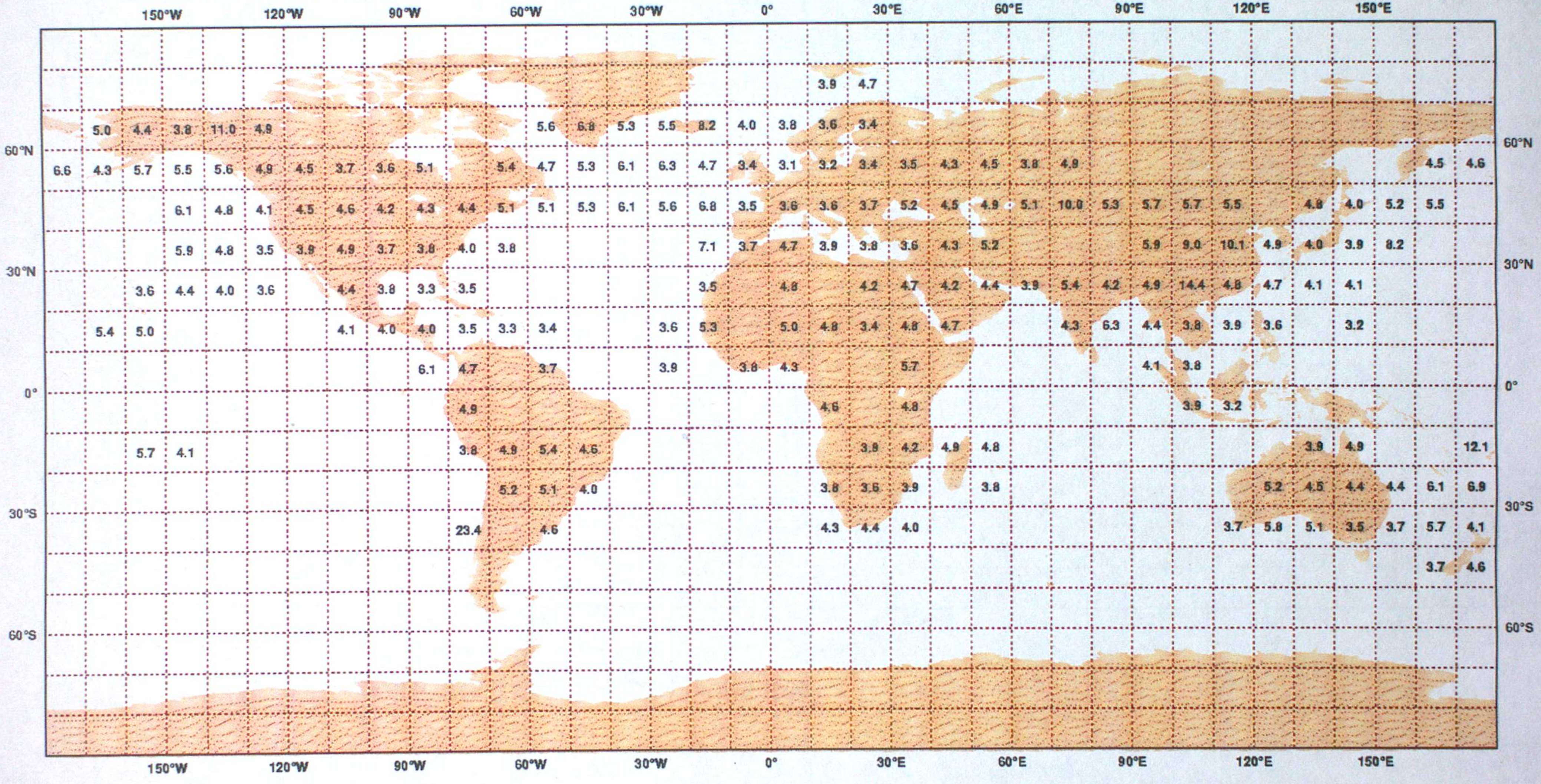

150°W
120°W
90°W
60°W
30°W
0°
30°E
60°E
90°E
120°E
150°E
60°N
30°N
0°
30°S
60°S
3.9 4.7
5.0 4.4 3.8 11.0 4.9 5.6 6.8 5.3 5.5 8.2 4.0 3.8 3.6 3.4
6.6 4.3 5.7 5.5 5.6 4.9 4.5 3.7 3.6 5.1 5.4 4.7 5.3 6.1 6.3 4.7 3.4 3.1 3.2 3.4 3.5 4.3 4.5 3.8 4.9 4.5 4.6
6.1 4.8 4.1 4.5 4.6 4.2 4.3 4.4 5.1 5.1 5.3 6.1 5.6 6.8 3.5 3.6 3.6 3.7 5.2 4.5 4.9 5.1 10.0 5.3 5.7 5.7 5.5 4.8 4.0 5.2 5.5
5.9 4.8 3.5 3.9 4.9 3.7 3.8 4.0 3.8 7.1 3.7 4.7 3.9 3.8 3.6 4.3 5.2 5.9 9.0 10.1 4.9 4.0 3.9 8.2
3.6 4.4 4.0 3.6 4.4 3.8 3.3 3.5 3.5 4.8 4.2 4.7 4.2 4.4 3.9 5.4 4.2 4.9 14.4 4.8 4.7 4.1 4.1
5.4 5.0 4.1 4.0 4.0 3.5 3.3 3.4 3.6 5.3 5.0 4.8 3.4 4.8 4.7 4.3 6.3 4.4 3.8 3.9 3.6 3.2
6.1 4.7 3.7 3.9 3.8 4.3 5.7 4.1 3.8
4.9 4.6 4.8 3.9 3.2
5.7 4.1 3.8 4.9 5.4 4.6 3.9 4.2 4.9 4.8 3.9 4.9 12.1
5.2 5.1 4.0 3.8 3.6 3.9 3.8 5.2 4.5 4.4 4.4 6.1 6.9
23.4 4.6 4.3 4.4 4.0 3.7 5.8 5.1 3.5 3.7 5.7 4.1
3.7 4.6
150°W
120°W
90°W
60°W
30°W
0°
30°E
60°E
90°E
120°E
150°E

TABLE 5

MONTHLY MONITORING OF RADIOSONDE OBSERVATIONS
MONITORING CENTRE: EXETER
MONTH: Jun 06

Monitoring procedures

Period		:One calendar month.
Data monitored		:Reports from each unique identifier for radiosonde TEMPs.
Area monitored		:90°N - 90°S, 180°W - 180°E.
Standard of comparison		:Background field from UKMO global model.
Observation times		:00 UTC and 12 UTC.
Level(s) monitored		:Standard levels between 1000.0 - 30.0 hPa
Element monitored		:GEOPOTENTIAL HEIGHT IN metres
Parameters monitored	:NUM OBS	:Number of observations available at level shown during period.
	:NUM GROSS	:Number of gross errors at level shown during period.
	:% REJ	:Percentage of observations rejected by quality control at level shown during period excluding those with gross errors.
	:SD	:SD of difference of observations from background values at level shown excluding those with gross errors.
	:BIAS	:Mean difference of observations from background values at level shown excluding those with gross errors.
	:RMS	:Root Mean Square difference of observations from background values at level shown excluding those with gross errors.
	:NUM LEVELS	:Number of levels satisfying selection criteria.
GROSS ERROR LIMITS	:Defined in Appendix I.1	
SELECTION CRITERIA	: ≥3 levels with ≥10 observations and ≥ 100 m weighted RMS.	

ONLY THE WORST LEVEL IS SHOWN WITH UNWEIGHTED RMS

WMO IDENT	OBS TIME	ELM	LEV	LAT/LONG	NUM OBS	NUM GROSS	SD	BIAS	RMS	NUM LEVELS
31168	00	Z	70	56/ 138	9	2	131.3	182.7	225.0	5
34731	12	Z	50	47/ 40	10	0	122.1	192.5	228.0	5
42027	00	Z	200	34/ 75	23	0	56.7	-112.0	125.5	6
42101	00	Z	50	30/ 76	17	0	124.1	97.1	157.6	6
42182	00	Z	200	29/ 77	21	3	87.9	-88.0	124.3	9
42182	12	Z	50	29/ 77	11	1	121.8	179.9	217.2	7
42314	00	Z	150	27/ 95	14	2	76.2	-145.9	164.5	7
42339	00	Z	200	26/ 73	17	2	65.2	-122.1	138.4	8
42361	00	Z	150	26/ 78	11	2	122.9	-153.6	196.8	7
42369	00	Z	150	27/ 81	21	1	70.5	-107.8	128.8	10
42379	00	Z	1000	27/ 83	20	3	12.9	-80.3	81.3	5
42410	00	Z	200	26/ 92	15	0	55.0	-155.4	164.9	10
42410	12	Z	200	26/ 92	19	2	52.7	-156.9	165.6	9
42492	00	Z	1000	26/ 85	26	0	15.4	-52.2	54.4	7
42492	12	Z	1000	26/ 85	26	0	11.8	-60.3	61.5	4
42647	12	Z	50	23/ 73	7	3	98.7	294.7	310.8	8
42667	00	Z	200	23/ 77	17	0	86.3	-40.5	95.3	4
42701	00	Z	100	23/ 85	15	0	123.0	-54.4	134.5	8
42701	12	Z	100	23/ 85	15	0	101.3	-80.1	129.1	4
42724	00	Z	200	24/ 91	9	2	91.7	-107.2	141.1	6
42724	12	Z	500	24/ 91	14	0	23.8	-80.1	83.6	4
42809	00	Z	500	23/ 88	29	0	34.9	-58.2	67.9	8
42809	12	Z	150	23/ 88	19	3	85.5	-155.4	177.3	11
42867	00	Z	200	21/ 79	16	0	44.2	-95.7	105.4	7
42971	00	Z	1000	20/ 86	26	0	13.6	-37.1	39.5	6
42971	12	Z	1000	20/ 86	30	0	18.0	-48.9	52.1	6
43003	00	Z	200	19/ 73	17	7	52.6	-190.9	198.1	11
43003	12	Z	1000	19/ 73	24	6	17.6	-67.5	69.8	11
43128	00	Z	100	17/ 78	17	1	100.4	-123.6	159.2	11
43128	12	Z	30	17/ 78	10	1	187.9	246.6	310.0	10
43192	00	Z	1000	15/ 74	20	3	13.6	-69.3	70.6	6
43279	00	Z	150	13/ 80	26	0	108.7	-93.9	143.6	8
43279	12	Z	50	13/ 80	14	1	161.1	92.2	185.7	6
43311	00	Z	200	11/ 73	16	2	61.2	-121.2	135.8	7
43333	00	Z	100	12/ 93	19	1	113.4	-151.0	188.8	9
43333	12	Z	150	12/ 93	24	0	55.9	-155.1	164.9	5
43346	00	Z	300	11/ 80	21	0	60.4	-52.1	79.8	5
43353	00	Z	1000	10/ 76	16	10	4.9	-94.2	94.3	7
43371	00	Z	150	8/ 77	25	0	54.4	-123.7	135.1	6
43371	12	Z	50	8/ 77	17	2	125.1	109.6	166.3	5
47058	00	Z	1000	39/ 126	14	2	27.5	-40.3	48.8	5
65344	00	Z	200	6/ 2	7	0	127.4	25.9	130.0	8
82099	12	Z	400	0/ -51	9	0	63.4	81.7	103.4	4
96163	00	Z	400	-1/ 100	16	8	94.1	18.5	95.9	9
96163	12	Z	1000	-1/ 100	1	20	0.0	-49.0	49.0	8
96935	12	Z	70	-7/ 113	25	2	139.6	75.5	158.7	11
97180	00	Z	1000	-5/ 120	29	0	15.3	-48.2	50.6	12
97180	12	Z	1000	-5/ 120	27	1	26.6	-52.0	58.4	4

Figure 8. TEMP 500 hPa geopotential mean daily count. JUNE 2006
All hours
Global average number of observations in 24 hours = 1222

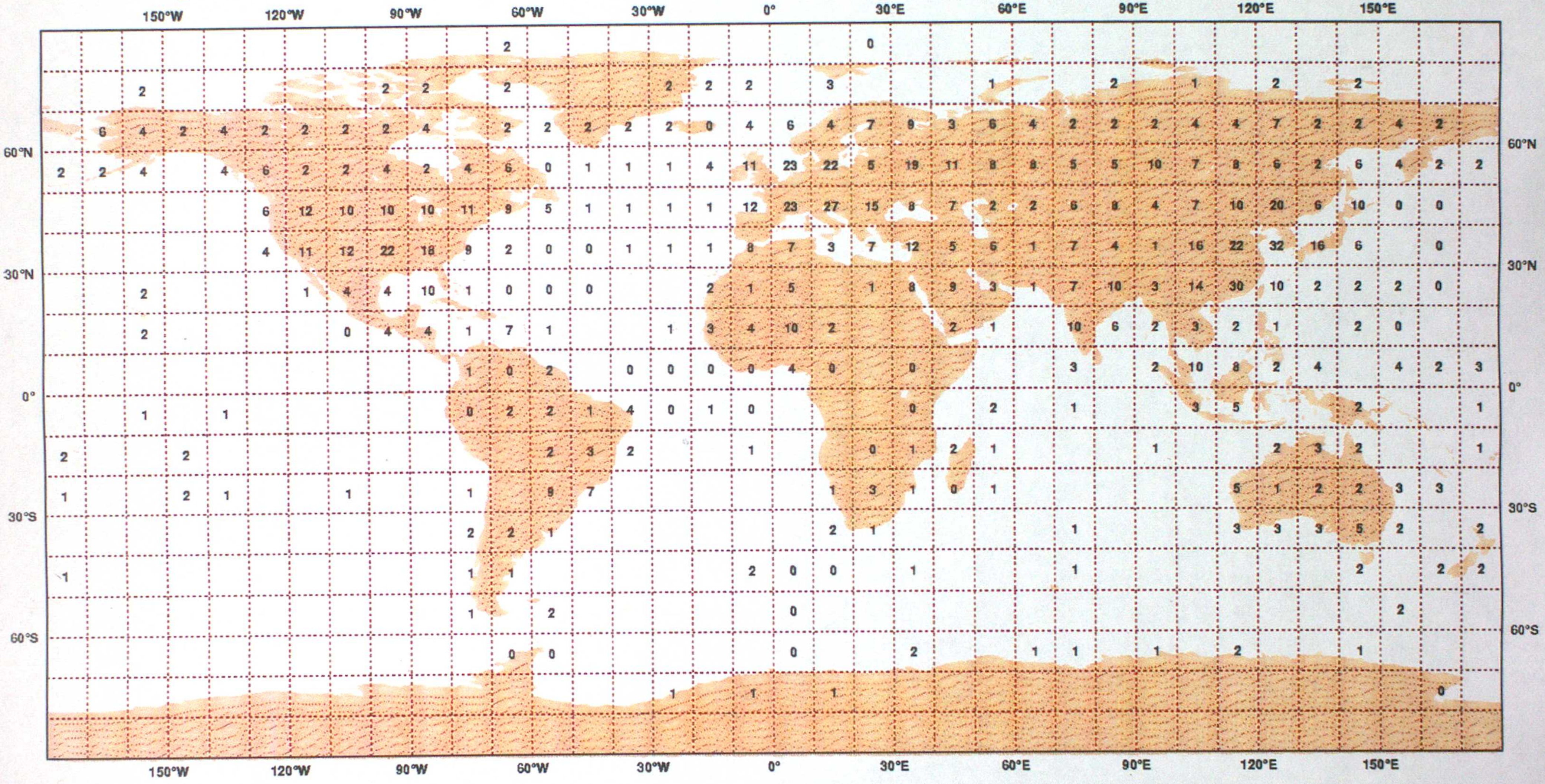

150°W
120°W
90°W
60°W
30°W
0°
30°E
60°E
90°E
120°E
150°E
60°N
30°N
0°
30°S
60°S

TABLE 6

MONTHLY MONITORING OF RADIOSONDE OBSERVATIONS
MONITORING CENTRE: EXETER
MONTH: Jun 06

Monitoring procedures

Period		:One calendar month.
Data monitored		:Reports from each unique identifier for radiosonde TEMPs.
Area monitored		:90°N - 90°S, 180°W - 180°E.
Standard of comparison		:Background field from UKMO global model.
Observation times		:00 UTC and 12 UTC.
Level(s) monitored		:Standard levels between 1000.0 - 100.0 hPa
Element monitored		:VECTOR WIND in m s^{-1}
Parameters monitored	:NUM OBS	:Number of observations available at level shown during period.
	:NUM GROSS	:Number of gross errors at level shown during period.
	:% REJ	:Percentage of observations rejected by quality control at level shown during period excluding those with gross errors.
	:UBIAS,VBIAS	:Mean difference of observations of U and V components from background values at level shown excluding those with gross errors.
	:RMS	:Root Mean Square difference of observations from background values at level shown excluding those with gross errors.
	:NUM LEVELS	:Number of levels satisfying selection criteria.
GROSS ERROR LIMITS	:Defined in Appendix I.2	
SELECTION CRITERIA	: ≥ 10 observations and ≥ 15 m s^{-1} RMS vector wind.	

ONLY THE STANDARD LEVEL BETWEEN 1000 - 100 hPa WITH HIGHEST RMS IS SHOWN

WMO IDENT	OBS TIME	ELM	LEV	LAT/LONG	NUM OBS	NUM GROSS	% REJ	UBIAS	VBIAS	RMS	LEVELS
01009	12	V	400	81/ 25	11	0	36	1.1	0.4	15.9	1
43599	12	V	100	-1/ 73	27	0	100	17.0	3.9	22.4	1
47158	00	V	200	35/ 127	28	0	3	-2.9	-0.6	16.8	1
48407	00	V	100	15/ 105	14	0	100	9.5	9.1	16.1	1
48407	12	V	100	15/ 105	10	0	100	7.7	7.7	16.3	2
48565	00	V	100	8/ 98	19	0	84	7.3	-1.6	17.9	1
60590	12	V	150	31/ 3	10	0	100	-20.3	-2.2	22.2	4
62306	00	V	200	31/ 27	29	0	100	2.9	-13.0	16.5	1
64458	12	V	150	2/ 16	18	0	100	11.9	-1.0	16.4	1
89009	00	V	250	-90/ 0	29	0	100	-0.1	-15.1	20.6	4

Figure 9. TEMP/PILOT 300 hPa wind mean daily count. JUNE 2006
All hours
Global average number of observations in 24 hours = 1399

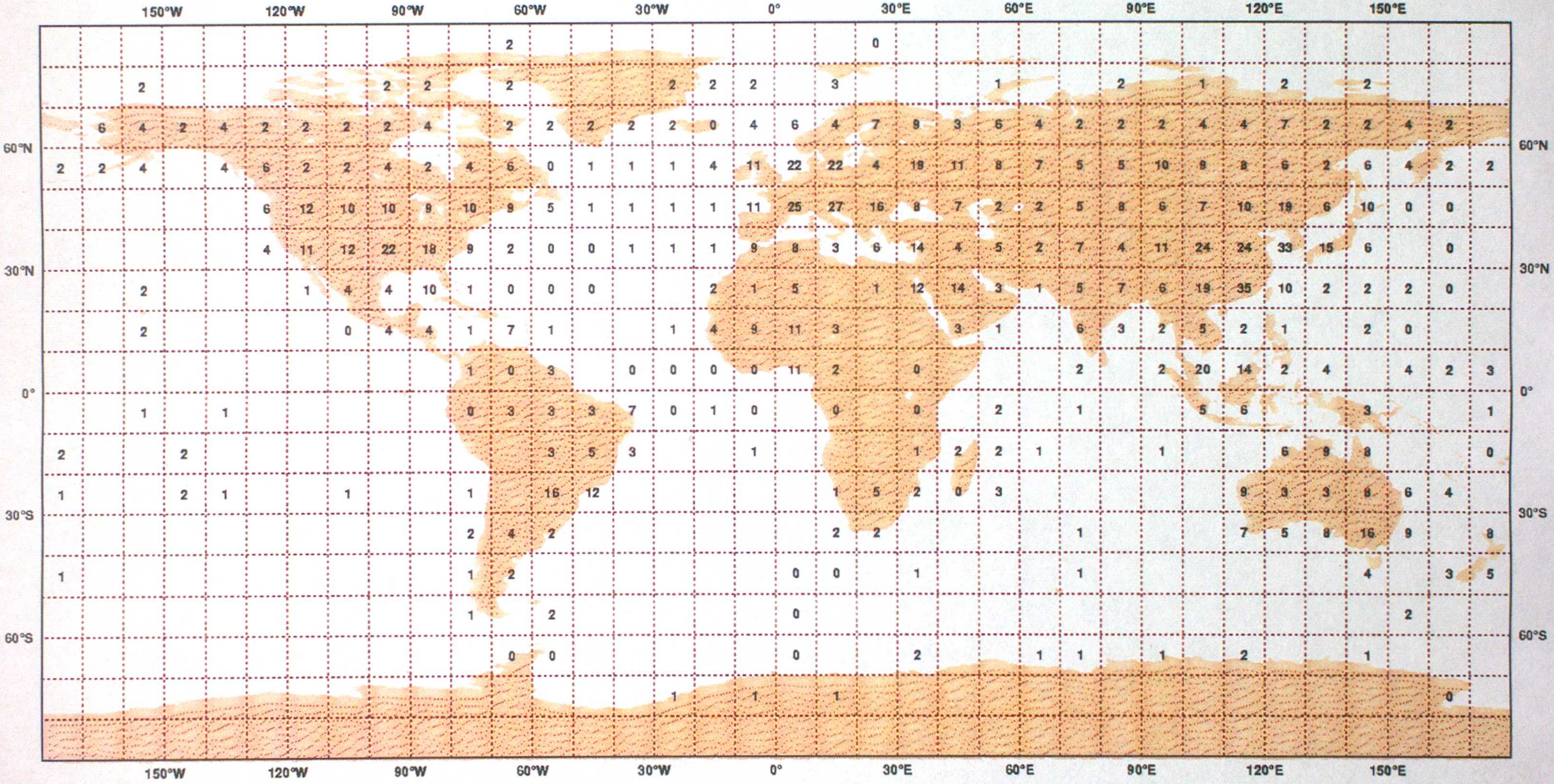

150°W 120°W 90°W 60°W 30°W 0° 30°E 60°E 90°E 120°E 150°E
60°N
30°N
0°
30°S
60°S
2 0
2 2 2 2 2 2 2 3 1 2 1 2 2
6 4 2 4 2 2 2 2 4 2 2 2 2 2 0 4 6 4 7 9 3 6 4 2 2 2 4 4 7 2 2 4 2
2 2 4 4 6 2 2 4 2 4 6 0 1 1 1 4 11 22 22 4 19 11 8 7 5 5 10 9 8 6 2 6 4 2 2
6 12 10 10 9 10 9 5 1 1 1 1 11 25 27 16 8 7 2 2 5 8 6 7 10 19 6 10 0 0
4 11 12 22 18 9 2 0 0 1 1 1 9 8 3 6 14 4 5 2 7 4 11 24 24 33 15 6 0
2 1 4 4 10 1 0 0 0 2 1 5 1 12 14 3 1 5 7 6 19 35 10 2 2 2 0
2 0 4 4 1 7 1 1 4 9 11 3 3 1 6 3 2 5 2 1 2 0
1 0 3 0 0 0 0 11 2 0 2 2 20 14 2 4 4 2 3
1 1 0 3 3 3 7 0 1 0 0 0 2 1 5 6 3 1
2 2 3 5 3 1 1 2 2 1 1 6 9 8 0
1 2 1 1 1 16 12 1 5 2 0 3 9 3 3 6 6 4
2 4 2 2 2 1 7 5 8 16 9 8
1 1 2 0 0 1 1 4 3 5
1 2 0 2
0 0 0 2 1 1 1 2 1
1 1 1 0

TABLE 7

MONTHLY MONITORING OF RADIOSONDE OBSERVATIONS
MONITORING CENTRE: EXETER
MONTH: Jun 06

Monitoring procedures

Period :One calendar month.

Data monitored :Reports from each unique identifier for radiosonde TEMPs.

Area monitored :90°N - 90°S, 180°W - 180°E.

Standard of comparison :Background field from UKMO global model.

Observation times :00 UTC and 12 UTC.

Level(s) monitored :Standard levels between 500.0 - 150.0 hPa

Element monitored :WIND DIRECTION in degrees

Parameters monitored

:NUM OBS :Average number of observations at all levels.

:BIAS :Mean difference of observations from background values from all levels.

:MAX SPREAD :(For observation - background values) Maximum absolute difference of SD at any level from SD at all levels

:SD :SD of difference of observations from background values at all levels.

SELECTION CRITERIA :NUM OBS ≥ 5, and
ABSOLUTE BIAS ≥ 10°, with
SD < 30°, and
MAX SPREAD < 10°

WMO IDENT	OBS TIME	ELM	LAT/LONG	NUM OBS	BIAS	MAX SPREAD	SD
08594	12	DD	17/ -23	15	10.1	3.4	14.9
22550	12	DD	65/ 41	25	11.0	1.5	10.1
34731	00	DD	47/ 40	19	14.5	9.2	15.0
34731	12	DD	47/ 40	17	14.4	4.2	13.8
42182	12	DD	29/ 77	22	12.6	8.9	20.3
43333	00	DD	12/ 93	16	12.9	4.6	17.5
56964	12	DD	23/ 101	15	10.7	9.2	20.0
59758	12	DD	20/ 110	16	11.0	8.2	26.6
59981	00	DD	17/ 112	18	10.4	7.2	16.6
61995	00	DD	-20/ 57	22	12.5	4.7	17.0
62306	00	DD	31/ 27	28	25.0	2.0	16.9
96163	12	DD	-1/ 100	14	10.7	7.8	19.4

MONITORING OF SATELLITE WINDS

MONITORING CENTRE: EXETER

MONTH: Jun 06

Monitoring procedures

Period :One calendar month.

Data monitored :Reports from GOES-9, GOES-10, GOES-12, METEOSAT-5, METEOSAT-7

Standard of comparison :Background field from UKMO global model.

Selection Criteria :number of observations > 10.

Data Extracted :Layer 701 - 1000 hPa
401 - 700 hPa
101 - 400 hPa

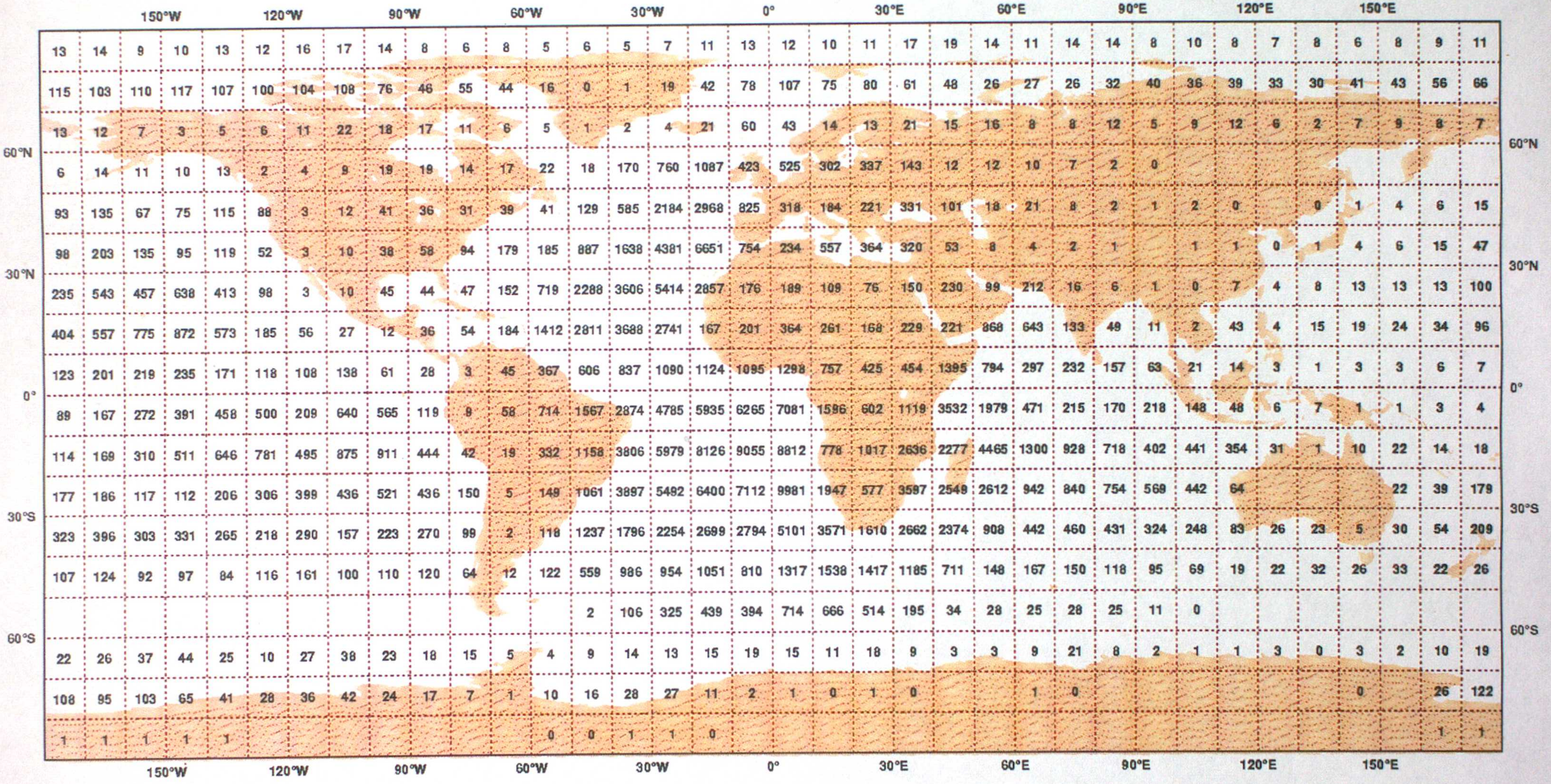
:Mean wind

:Mean observation minus background vector wind differences

:Mean observation minus background speed differences

:RMS of observation minus background vector differences

Figure 10. SATOB 701 - 1000 hPa mean daily count. JUNE 2006
Global average number of observations in 24 hours = 285245



13	14	9	10	13	12	16	17	14	8	6	8	5	6	5	7	11	13	12	10	11	17	19	14	11	14	14	8	10	8	7	8	6	8	9	11
115	103	110	117	107	100	104	108	76	46	55	44	16	0	1	19	42	78	107	75	80	61	48	26	27	26	32	40	36	39	33	30	41	43	56	66
13	12	7	3	5	6	11	22	18	17	11	6	5	1	2	4	21	60	43	14	13	21	15	16	8	8	12	5	9	12	6	2	7	9	8	7
6	14	11	10	13	2	4	9	19	19	14	17	22	18	170	760	1087	423	525	302	337	143	12	12	10	7	2	0								
93	135	67	75	115	88	3	12	41	36	31	39	41	129	585	2184	2968	825	318	184	221	331	101	18	21	8	2	1	2	0		0	1	4	6	15
98	203	135	95	119	52	3	10	38	58	94	179	185	887	1638	4381	6651	754	234	557	364	320	53	8	4	2	1		1	1	0	1	4	6	15	47
235	543	457	638	413	98	3	10	45	44	47	152	719	2288	3606	5414	2857	176	189	109	76	150	230	99	212	16	6	1	0	7	4	8	13	13	13	100
404	557	775	872	573	185	56	27	12	36	54	184	1412	2811	3688	2741	167	201	364	261	168	229	221	868	643	133	49	11	2	43	4	15	19	24	34	96
123	201	219	235	171	118	108	138	61	28	3	45	367	606	837	1090	1124	1095	1298	757	425	454	1395	794	297	232	157	63	21	14	3	1	3	3	6	7
89	167	272	391	458	500	209	640	565	119	9	58	714	1567	2874	4785	5935	6265	7081	1596	602	1119	3532	1979	471	215	170	218	148	48	6	7	1	1	3	4
114	169	310	511	646	781	495	875	911	444	42	19	332	1158	3806	5979	8126	9055	8812	778	1017	2636	2277	4465	1300	928	718	402	441	354	31	1	10	22	14	18
177	186	117	112	206	306	399	436	521	436	150	5	149	1061	3897	5492	6400	7112	9981	1947	577	3597	2548	2612	942	840	754	569	442	64				22	39	179
323	396	303	331	265	218	290	157	223	270	99	2	118	1237	1796	2254	2699	2794	5101	3571	1610	2662	2374	908	442	460	431	324	248	83	26	23	5	30	54	209
107	124	92	97	84	116	161	100	110	120	64	12	122	559	986	954	1051	810	1317	1538	1417	1185	711	148	167	150	118	95	69	19	22	32	26	33	22	26
													2	106	325	439	394	714	666	514	195	34	28	25	28	25	11	0							
22	26	37	44	25	10	27	38	23	18	15	5	4	9	14	13	15	19	15	11	18	9	3	3	9	21	8	2	1	1	3	0	3	2	10	19
108	95	103	65	41	28	36	42	24	17	7	1	10	16	28	27	11	2	1	0	1	0			1	0							0		26	122
1	1	1	1	1								0	0	1	1	0																		1	1

Figure 11. SATOB 701 - 1000 hPa vector mean wind. JUNE 2006
All observations
Arrows are plotted where greater than 10 obs are present

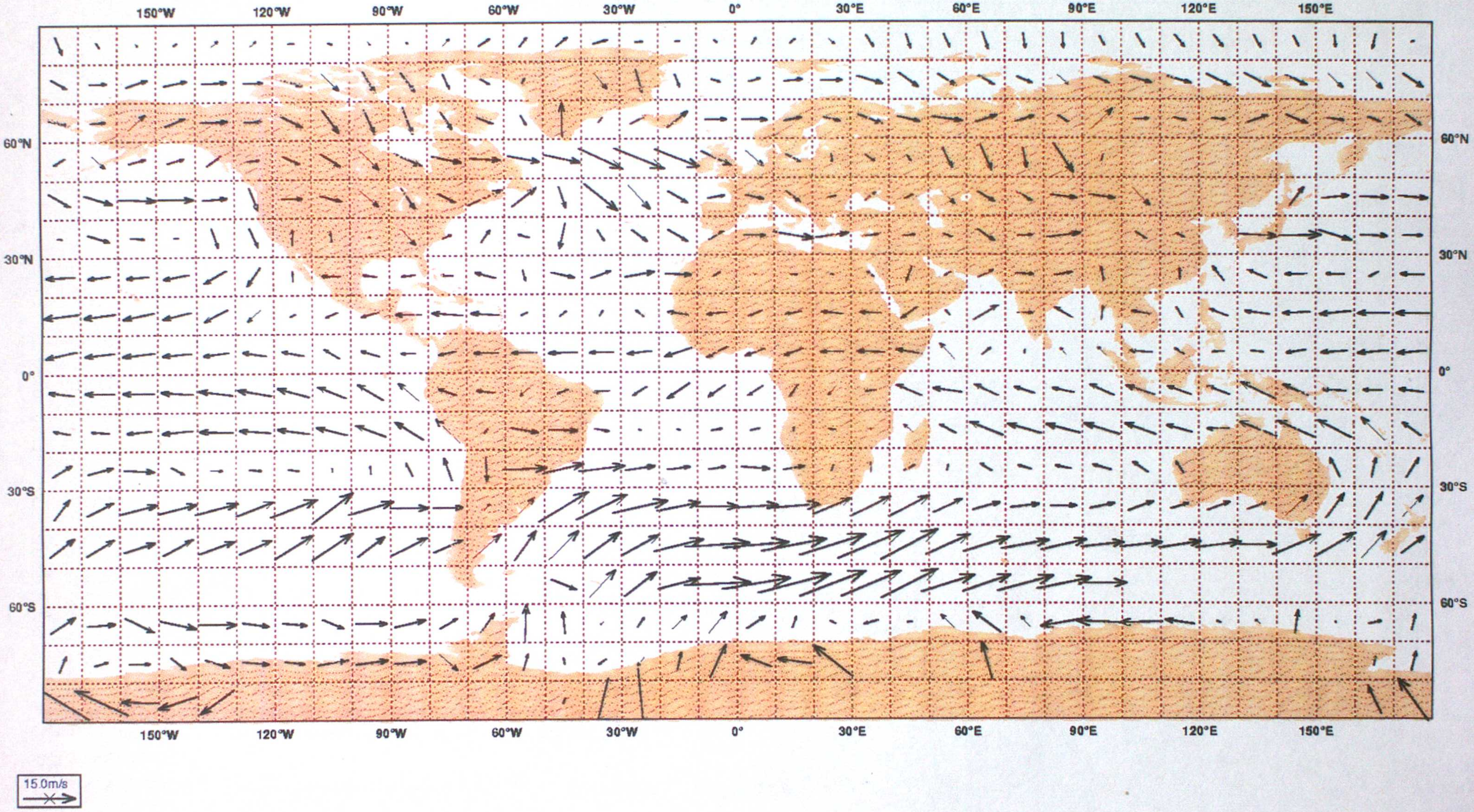

150°W
120°W
90°W
60°W
30°W
0°
30°E
60°E
90°E
120°E
150°E
60°N
30°N
0°
30°S
60°S
15.0m/s

Figure 12. SATOB 701 - 1000 hPa mean vector wind differences. JUNE 2006
All observations
Arrows are plotted where greater than 10 obs are present

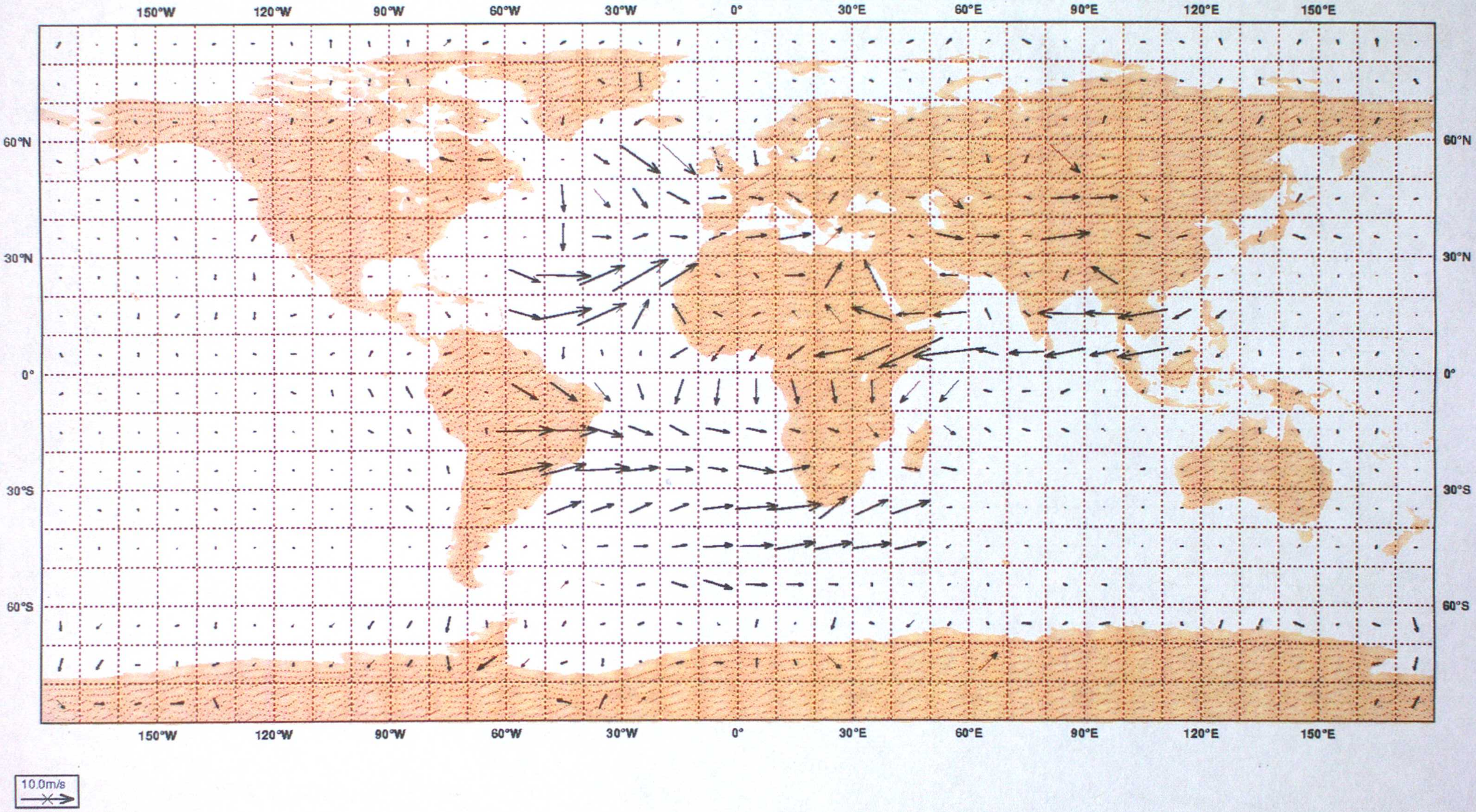

150°W
120°W
90°W
60°W
30°W
0°
30°E
60°E
90°E
120°E
150°E
60°N
30°N
0°
30°S
60°S
10.0m/s

Figure 13. SATOB 701 - 1000 hPa mean O-B speed differences (ms-1). JUNE 2006
All observations
Values are plotted where greater than 10 obs are present

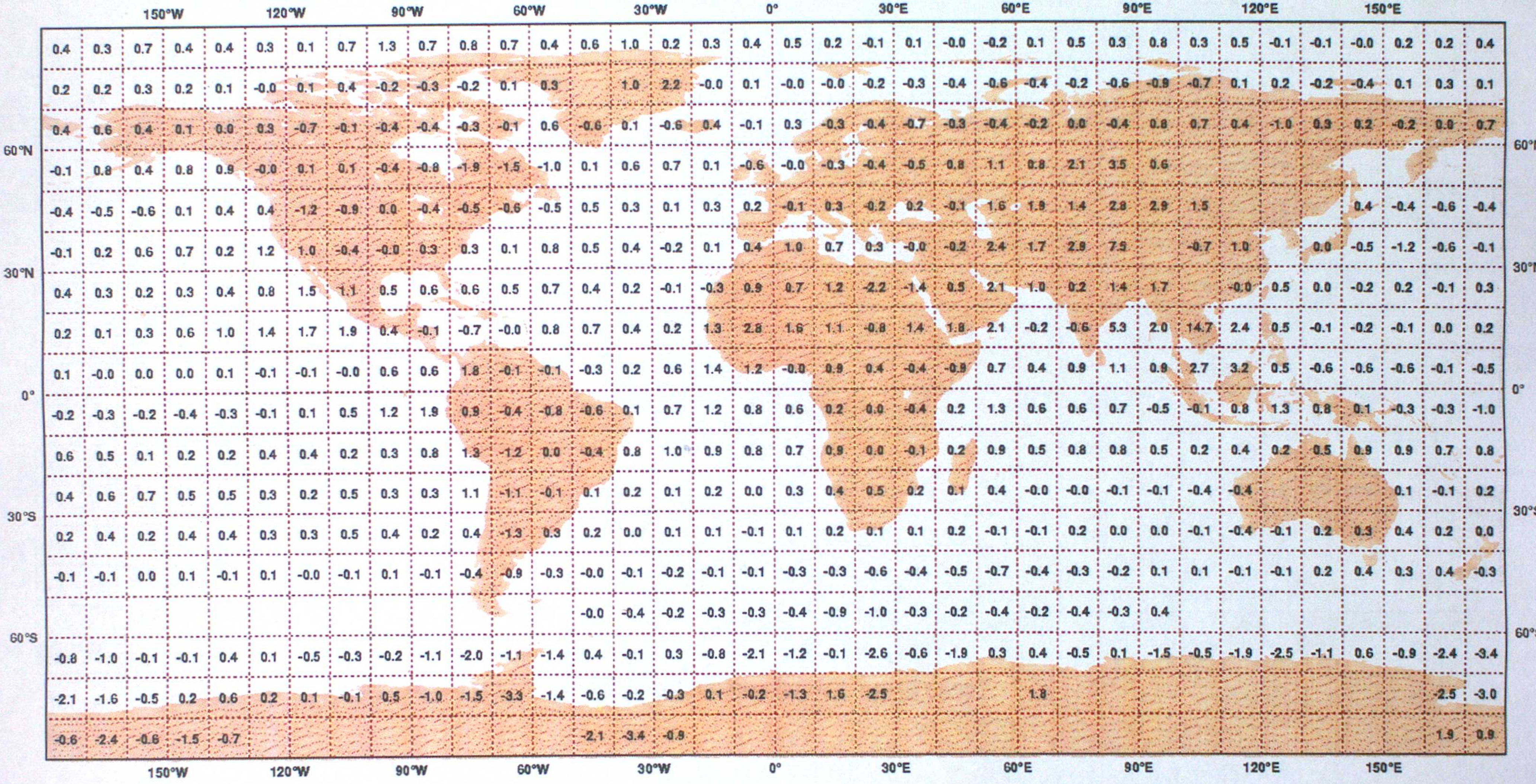
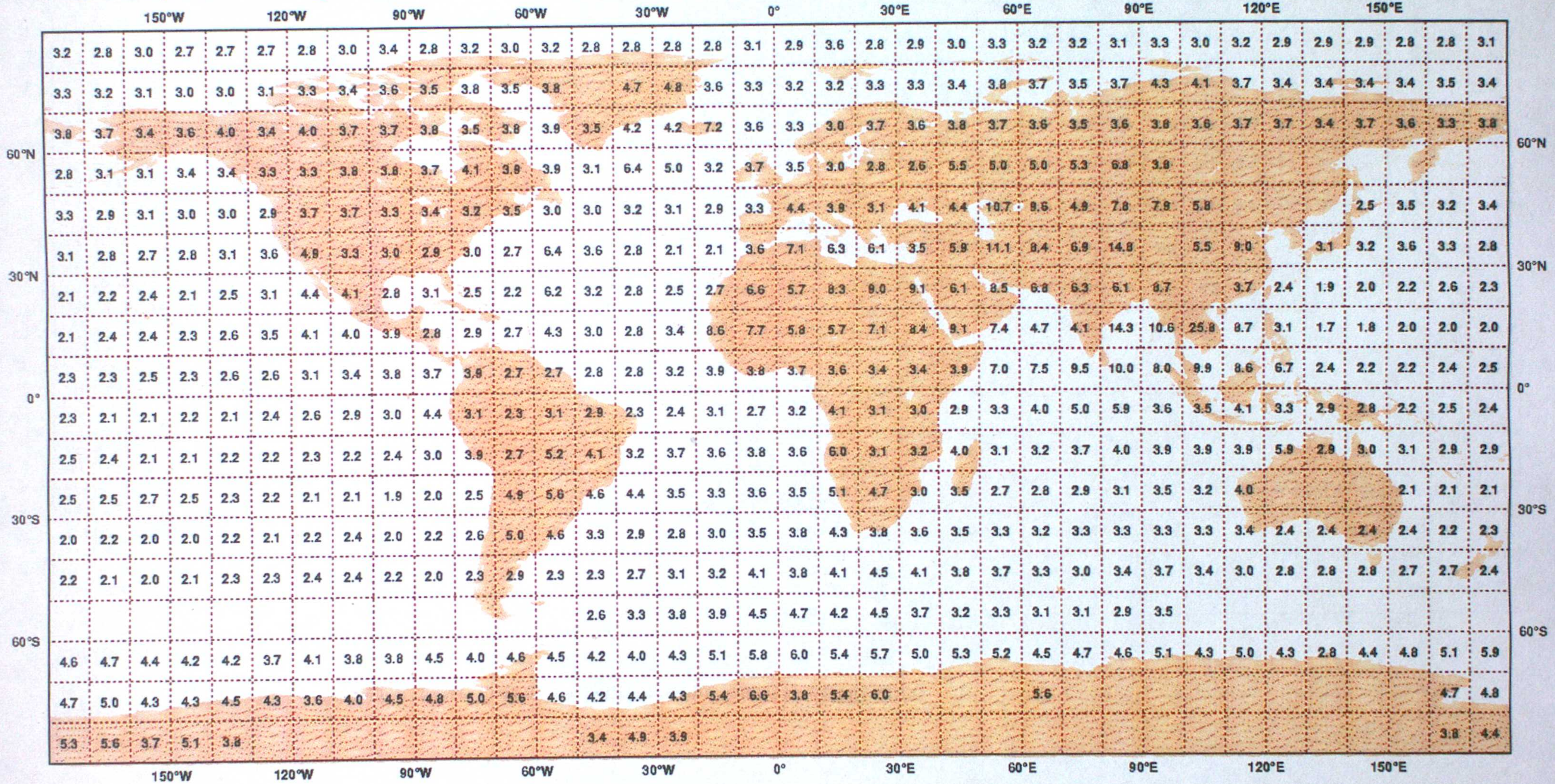
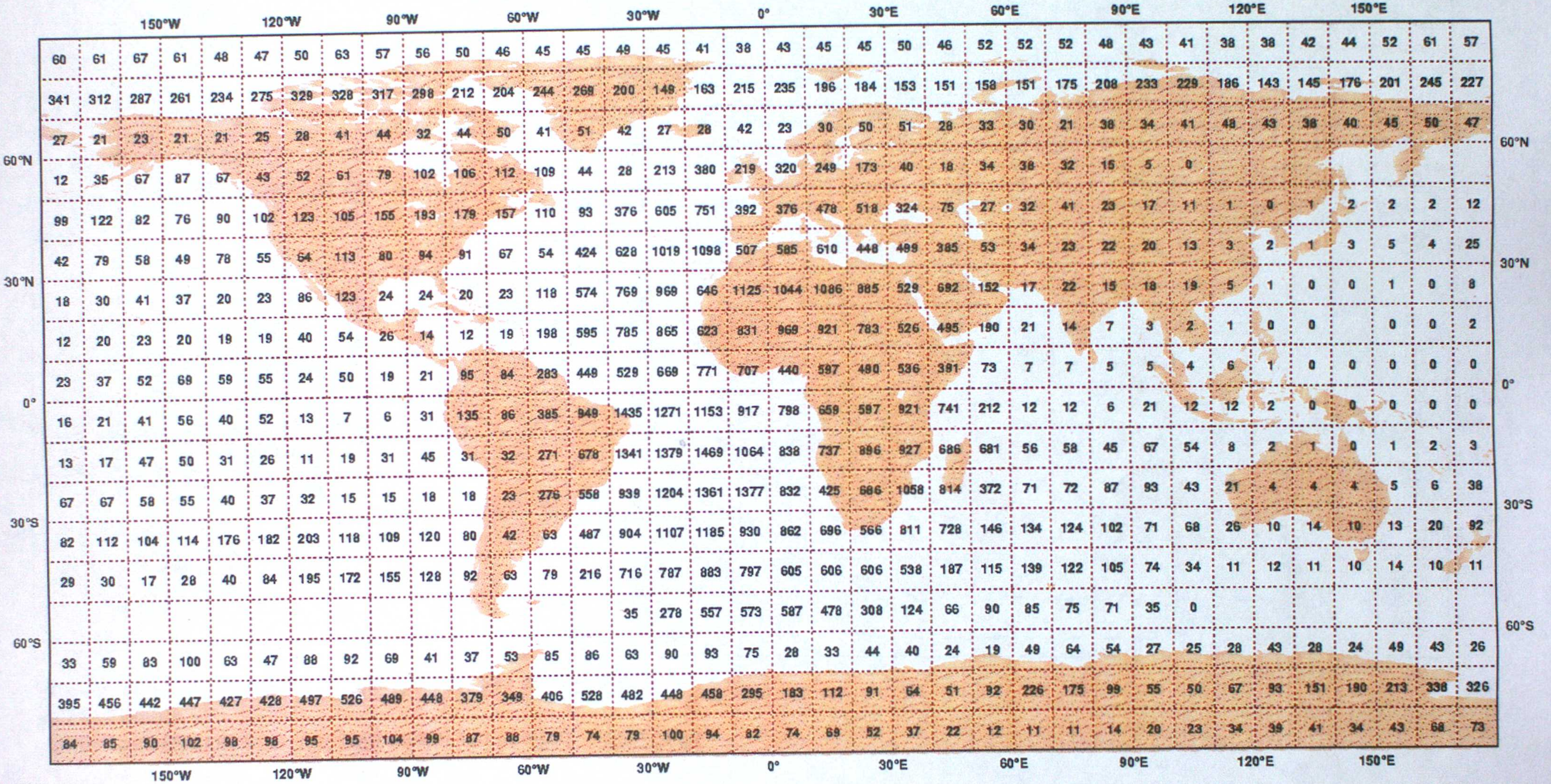

150°W
120°W
90°W
60°W
30°W
0°
30°E
60°E
90°E
120°E
150°E
60°N
30°N
0°
30°S
60°S

Figure 14. SATOB 701 - 1000 hPa mean RMS O-B vector differences (ms-1). JUNE 2006
All observations
Values are plotted where greater than 10 obs are present



3.2	2.8	3.0	2.7	2.7	2.7	2.8	3.0	3.4	2.8	3.2	3.0	3.2	2.8	2.8	2.8	2.8	3.1	2.9	3.6	2.8	2.9	3.0	3.3	3.2	3.2	3.1	3.3	3.0	3.2	2.9	2.9	2.9	2.8	2.8	3.1
3.3	3.2	3.1	3.0	3.0	3.1	3.3	3.4	3.6	3.5	3.8	3.5	3.8		4.7	4.8	3.6	3.3	3.2	3.2	3.3	3.3	3.4	3.8	3.7	3.5	3.7	4.3	4.1	3.7	3.4	3.4	3.4	3.4	3.5	3.4
3.8	3.7	3.4	3.6	4.0	3.4	4.0	3.7	3.7	3.8	3.5	3.8	3.9	3.5	4.2	4.2	7.2	3.6	3.3	3.0	3.7	3.6	3.8	3.7	3.6	3.5	3.6	3.8	3.6	3.7	3.7	3.4	3.7	3.6	3.3	3.8
2.8	3.1	3.1	3.4	3.4	3.3	3.3	3.8	3.8	3.7	4.1	3.9	3.9	3.1	6.4	5.0	3.2	3.7	3.5	3.0	2.8	2.6	5.5	5.0	5.0	5.3	6.8	3.8								
3.3	2.9	3.1	3.0	3.0	2.9	3.7	3.7	3.3	3.4	3.2	3.5	3.0	3.0	3.2	3.1	2.9	3.3	4.4	3.9	3.1	4.1	4.4	10.7	9.6	4.9	7.8	7.9	5.8				2.5	3.5	3.2	3.4
3.1	2.8	2.7	2.8	3.1	3.6	4.9	3.3	3.0	2.9	3.0	2.7	6.4	3.6	2.8	2.1	2.1	3.6	7.1	6.3	6.1	3.5	5.9	11.1	8.4	6.9	14.8		5.5	9.0		3.1	3.2	3.6	3.3	2.8
2.1	2.2	2.4	2.1	2.5	3.1	4.4	4.1	2.8	3.1	2.5	2.2	6.2	3.2	2.8	2.5	2.7	6.6	5.7	8.3	9.0	9.1	6.1	8.5	6.8	6.3	6.1	8.7		3.7	2.4	1.9	2.0	2.2	2.6	2.3
2.1	2.4	2.4	2.3	2.6	3.5	4.1	4.0	3.9	2.8	2.9	2.7	4.3	3.0	2.8	3.4	8.6	7.7	5.8	5.7	7.1	8.4	9.1	7.4	4.7	4.1	14.3	10.6	25.8	8.7	3.1	1.7	1.8	2.0	2.0	2.0
2.3	2.3	2.5	2.3	2.6	2.6	3.1	3.4	3.8	3.7	3.9	2.7	2.7	2.8	2.8	3.2	3.9	3.8	3.7	3.6	3.4	3.4	3.9	7.0	7.5	9.5	10.0	8.0	9.9	8.6	6.7	2.4	2.2	2.2	2.4	2.5
2.3	2.1	2.1	2.2	2.1	2.4	2.6	2.9	3.0	4.4	3.1	2.3	3.1	2.9	2.3	2.4	3.1	2.7	3.2	4.1	3.1	3.0	2.9	3.3	4.0	5.0	5.9	3.6	3.5	4.1	3.3	2.9	2.8	2.2	2.5	2.4
2.5	2.4	2.1	2.1	2.2	2.2	2.3	2.2	2.4	3.0	3.9	2.7	5.2	4.1	3.2	3.7	3.6	3.8	3.6	6.0	3.1	3.2	4.0	3.1	3.2	3.7	4.0	3.9	3.9	3.9	5.9	2.9	3.0	3.1	2.9	2.9
2.5	2.5	2.7	2.5	2.3	2.2	2.1	2.1	1.9	2.0	2.5	4.9	5.6	4.6	4.4	3.5	3.3	3.6	3.5	5.1	4.7	3.0	3.5	2.7	2.8	2.9	3.1	3.5	3.2	4.0				2.1	2.1	2.1
2.0	2.2	2.0	2.0	2.2	2.1	2.2	2.4	2.0	2.2	2.6	5.0	4.6	3.3	2.9	2.8	3.0	3.5	3.8	4.3	3.8	3.6	3.5	3.3	3.2	3.3	3.3	3.3	3.3	3.4	2.4	2.4	2.4	2.4	2.2	2.3
2.2	2.1	2.0	2.1	2.3	2.3	2.4	2.4	2.2	2.0	2.3	2.9	2.3	2.3	2.7	3.1	3.2	4.1	3.8	4.1	4.5	4.1	3.8	3.7	3.3	3.0	3.4	3.7	3.4	3.0	2.8	2.8	2.8	2.7	2.7	2.4
													2.6	3.3	3.8	3.9	4.5	4.7	4.2	4.5	3.7	3.2	3.3	3.1	3.1	2.9	3.5								
4.6	4.7	4.4	4.2	4.2	3.7	4.1	3.8	3.8	4.5	4.0	4.6	4.5	4.2	4.0	4.3	5.1	5.8	6.0	5.4	5.7	5.0	5.3	5.2	4.5	4.7	4.6	5.1	4.3	5.0	4.3	2.8	4.4	4.8	5.1	5.9
4.7	5.0	4.3	4.3	4.5	4.3	3.6	4.0	4.5	4.8	5.0	5.6	4.6	4.2	4.4	4.3	5.4	6.6	3.8	5.4	6.0				5.6										4.7	4.8
5.3	5.6	3.7	5.1	3.8									3.4	4.9	3.9																			3.8	4.4

Figure 15. SATOB 401 - 700 hPa mean daily count. JUNE 2006
Global average number of observations in 24 hours = 120184



60	61	67	61	48	47	50	63	57	56	50	46	45	45	49	45	41	38	43	45	45	50	46	52	52	52	48	43	41	38	38	42	44	52	61	57
341	312	287	261	234	275	329	328	317	298	212	204	244	269	200	149	163	215	235	196	184	153	151	158	151	175	208	233	229	186	143	145	176	201	245	227
27	21	23	21	21	25	28	41	44	32	44	50	41	51	42	27	28	42	23	30	50	51	28	33	30	21	38	34	41	48	43	38	40	45	50	47
12	35	67	87	67	43	52	61	79	102	106	112	109	44	28	213	380	219	320	249	173	40	18	34	38	32	15	5	0							
99	122	82	76	90	102	123	105	155	193	179	157	110	93	376	605	751	392	376	478	518	324	75	27	32	41	23	17	11	1	0	1	2	2	2	12
42	79	58	49	78	55	64	113	80	94	91	67	54	424	628	1019	1098	507	585	610	448	499	385	53	34	23	22	20	13	3	2	1	3	5	4	25
18	30	41	37	20	23	86	123	24	24	20	23	118	574	769	969	646	1125	1044	1086	885	529	692	152	17	22	15	18	19	5	1	0	0	1	0	8
12	20	23	20	19	19	40	54	26	14	12	19	198	595	785	865	623	831	969	921	783	526	495	190	21	14	7	3	2	1	0	0		0	0	2
23	37	52	69	59	55	24	50	19	21	95	84	283	449	529	669	771	707	440	597	490	536	391	73	7	7	5	5	4	6	1	0	0	0	0	0
16	21	41	56	40	52	13	7	6	31	135	86	385	949	1435	1271	1153	917	798	659	597	921	741	212	12	12	6	21	12	12	2	0	0	0	0	0
13	17	47	50	31	26	11	19	31	45	31	32	271	678	1341	1379	1469	1064	838	737	896	927	686	681	56	58	45	67	54	8	2	1	0	1	2	3
67	67	58	55	40	37	32	15	15	18	18	23	276	558	939	1204	1361	1377	832	425	686	1058	814	372	71	72	87	93	43	21	4	4	4	5	6	38
82	112	104	114	176	182	203	118	109	120	80	42	63	487	904	1107	1185	930	862	696	566	811	728	146	134	124	102	71	68	26	10	14	10	13	20	92
29	30	17	28	40	84	195	172	155	128	92	63	79	216	716	787	883	797	605	606	606	538	187	115	139	122	105	74	34	11	12	11	10	14	10	11
														35	278	557	573	587	478	308	124	66	90	85	75	71	35	0							
33	59	83	100	63	47	88	92	69	41	37	53	85	86	63	90	93	75	28	33	44	40	24	19	49	64	54	27	25	28	43	28	24	49	43	26
395	456	442	447	427	428	497	526	489	448	379	349	406	528	482	448	458	295	183	112	91	64	51	92	226	175	99	55	50	67	93	151	190	213	336	326
84	85	90	102	98	98	95	95	104	99	87	88	79	74	79	100	94	82	74	69	52	37	22	12	11	11	14	20	23	34	39	41	34	43	68	73

Figure 16. SATOB 401 - 700 hPa vector mean wind. JUNE 2006
All observations
Arrows are plotted where greater than 10 obs are present

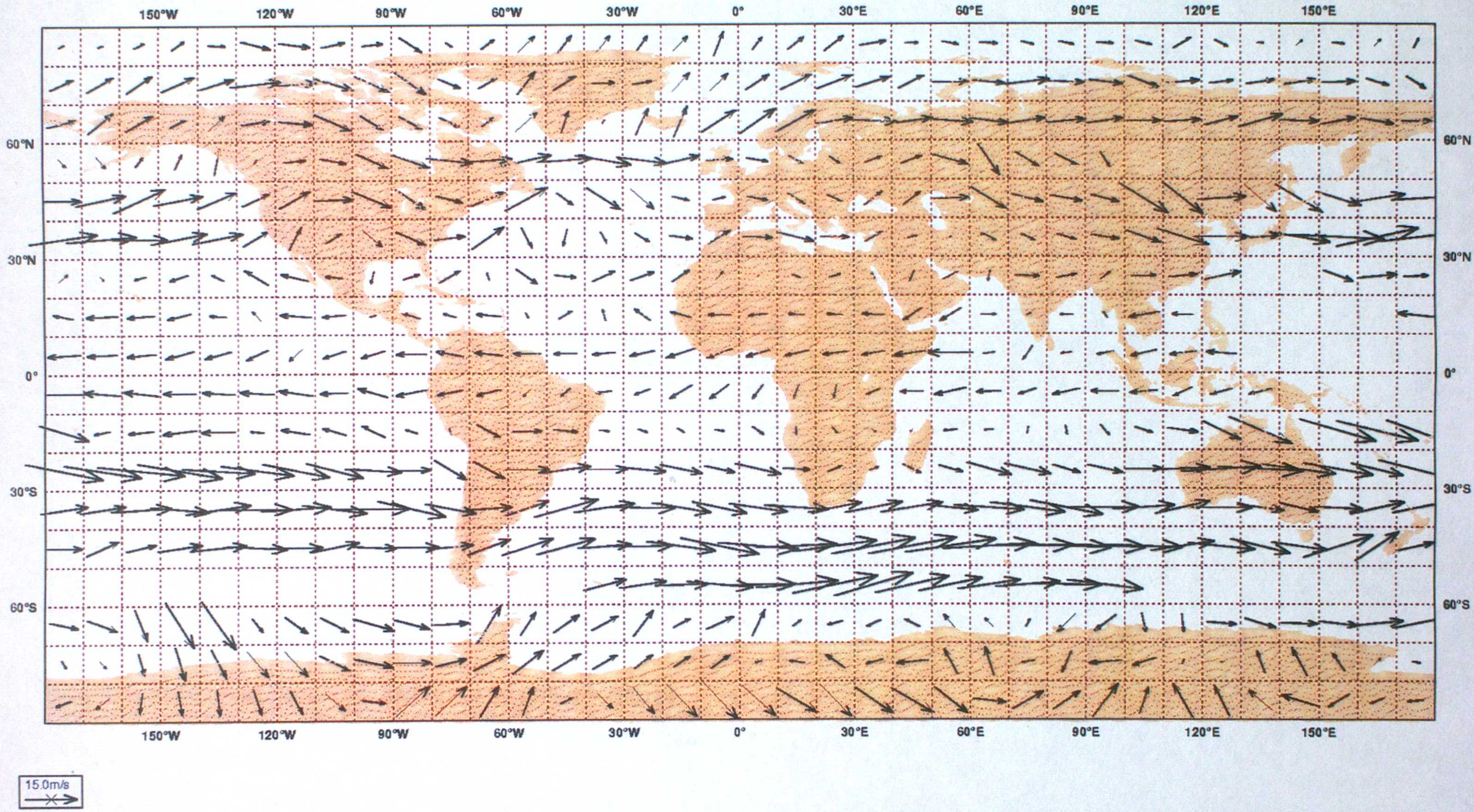

150°W
120°W
90°W
60°W
30°W
0°
30°E
60°E
90°E
120°E
150°E
60°N
30°N
0°
30°S
60°S
15.0m/s

Figure 17. SATOB 401 - 700 hPa mean vector wind differences. JUNE 2006
All observations
Arrows are plotted where greater than 10 obs are present

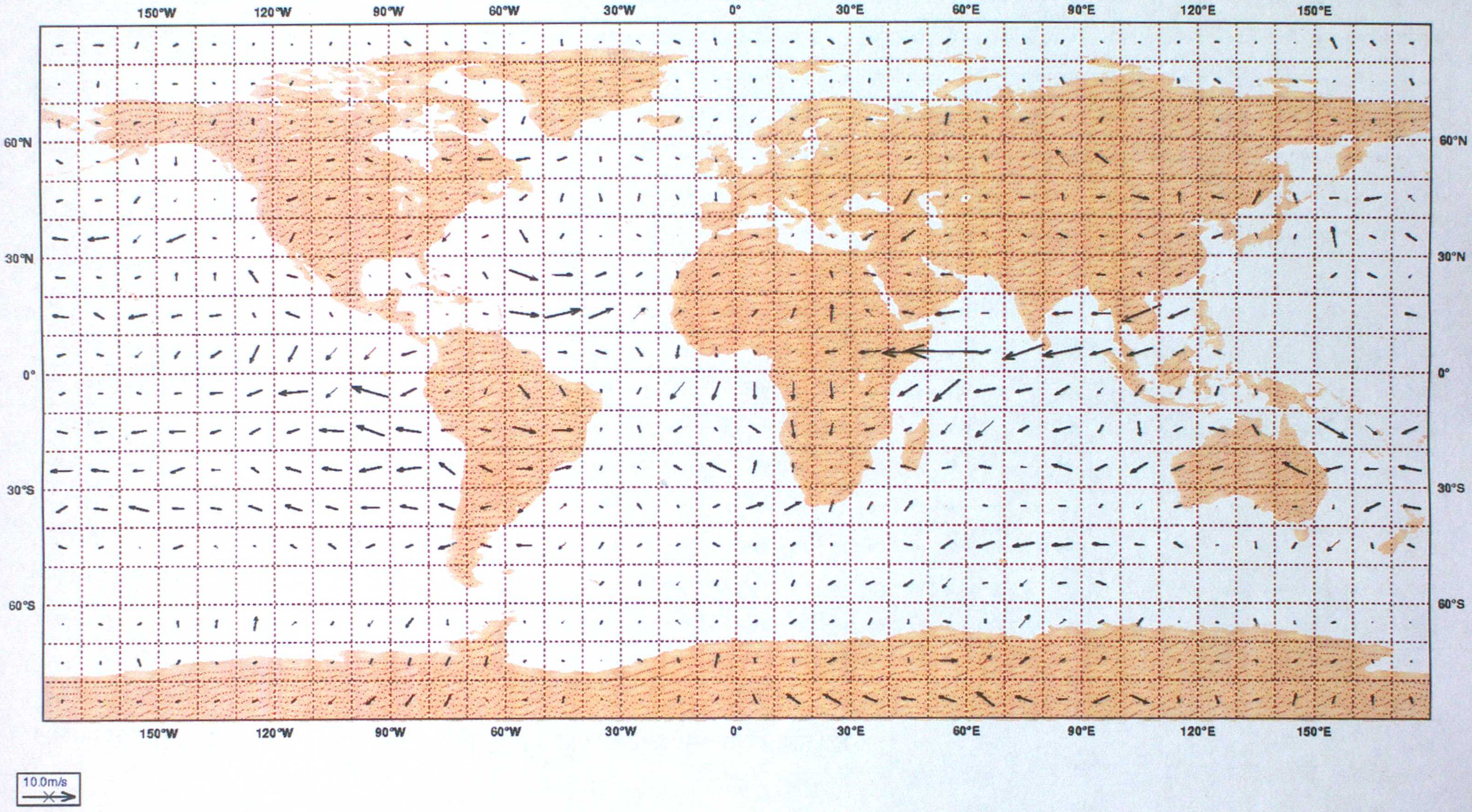
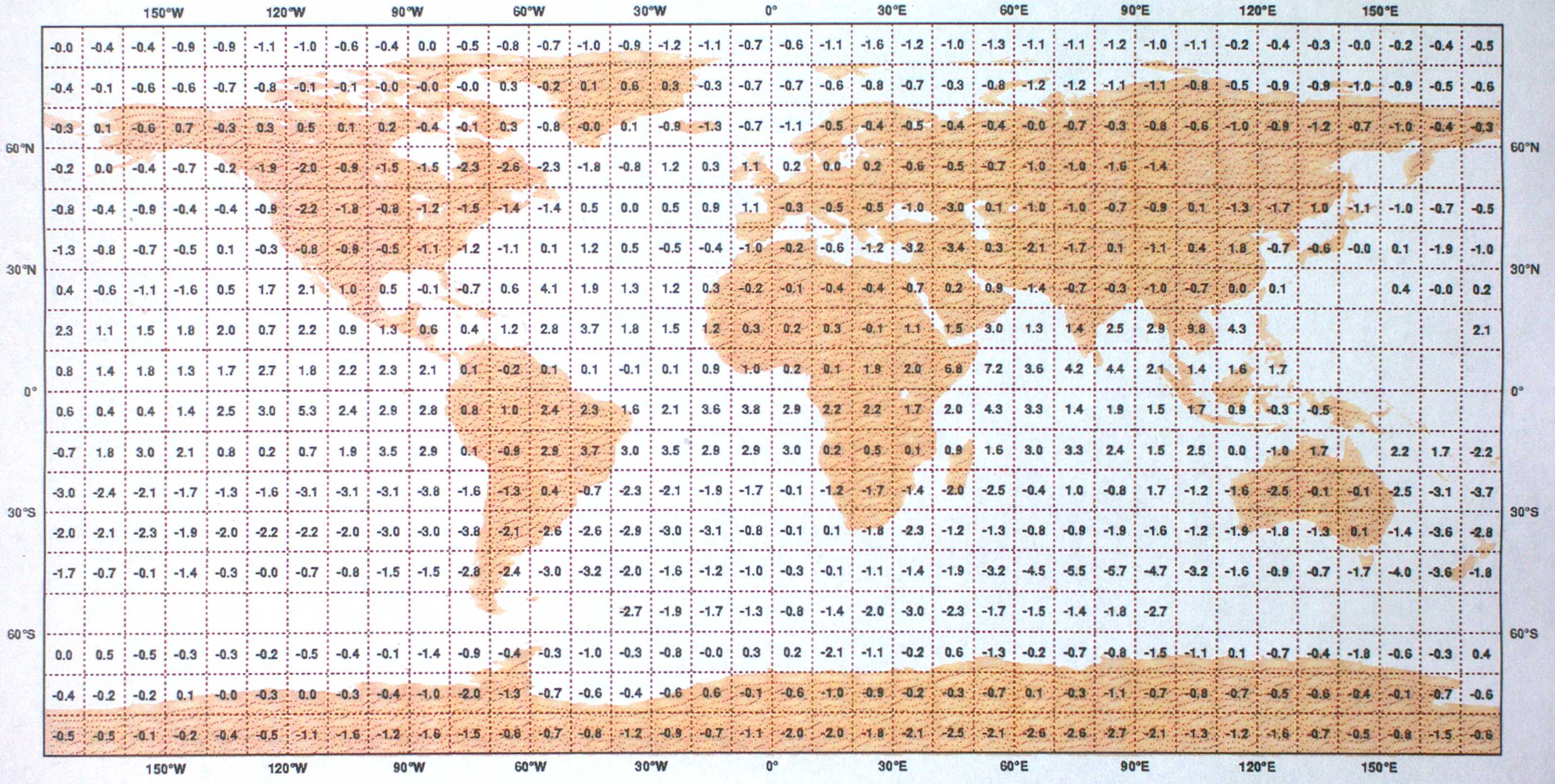
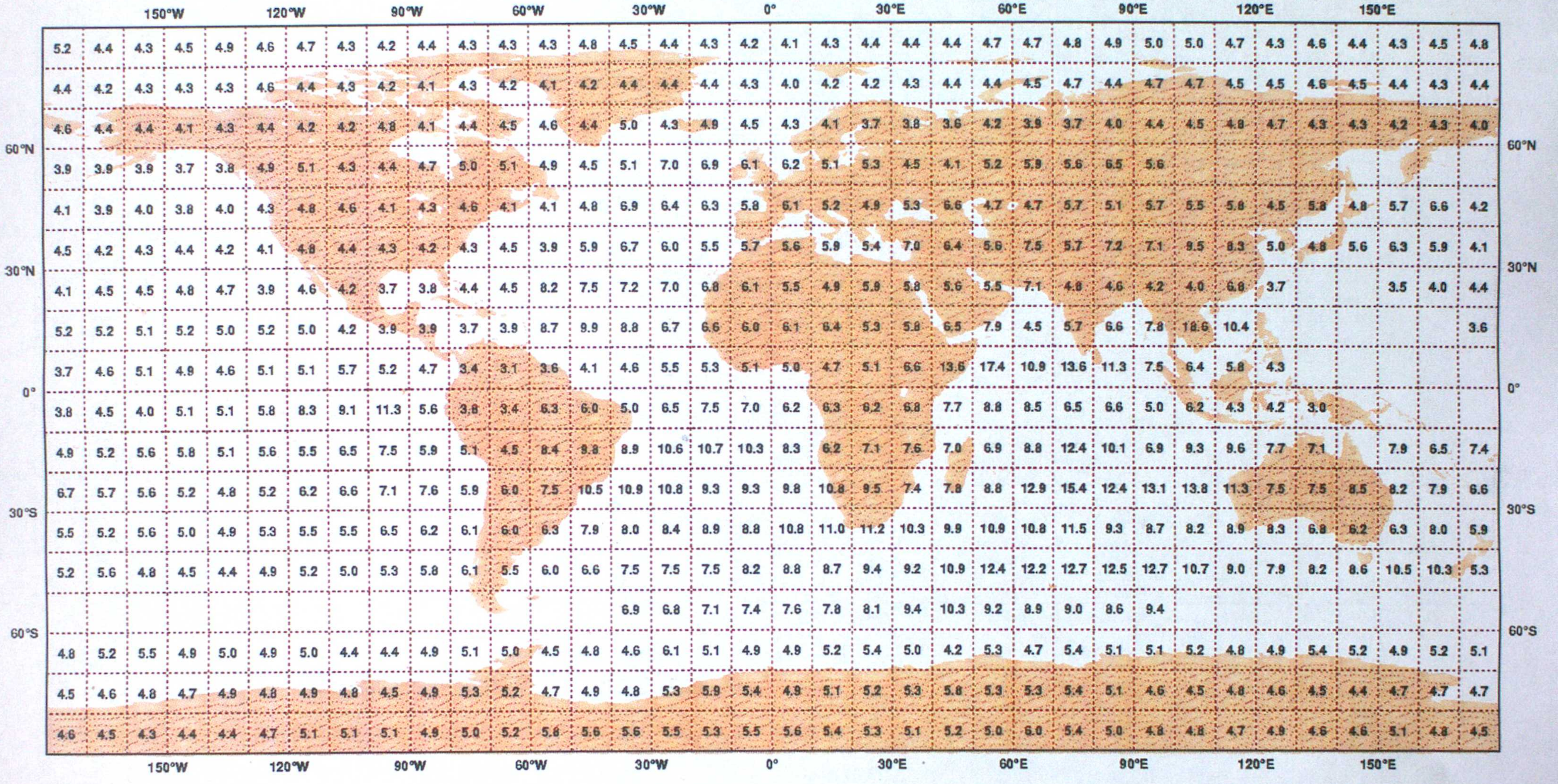

150°W
120°W
90°W
60°W
30°W
0°
30°E
60°E
90°E
120°E
150°E
60°N
30°N
0°
30°S
60°S
10.0m/s

Figure 18. SATOB 401 - 700 hPa mean O-B speed differences (ms-1). JUNE 2006
All observations
Values are plotted where greater than 10 obs are present



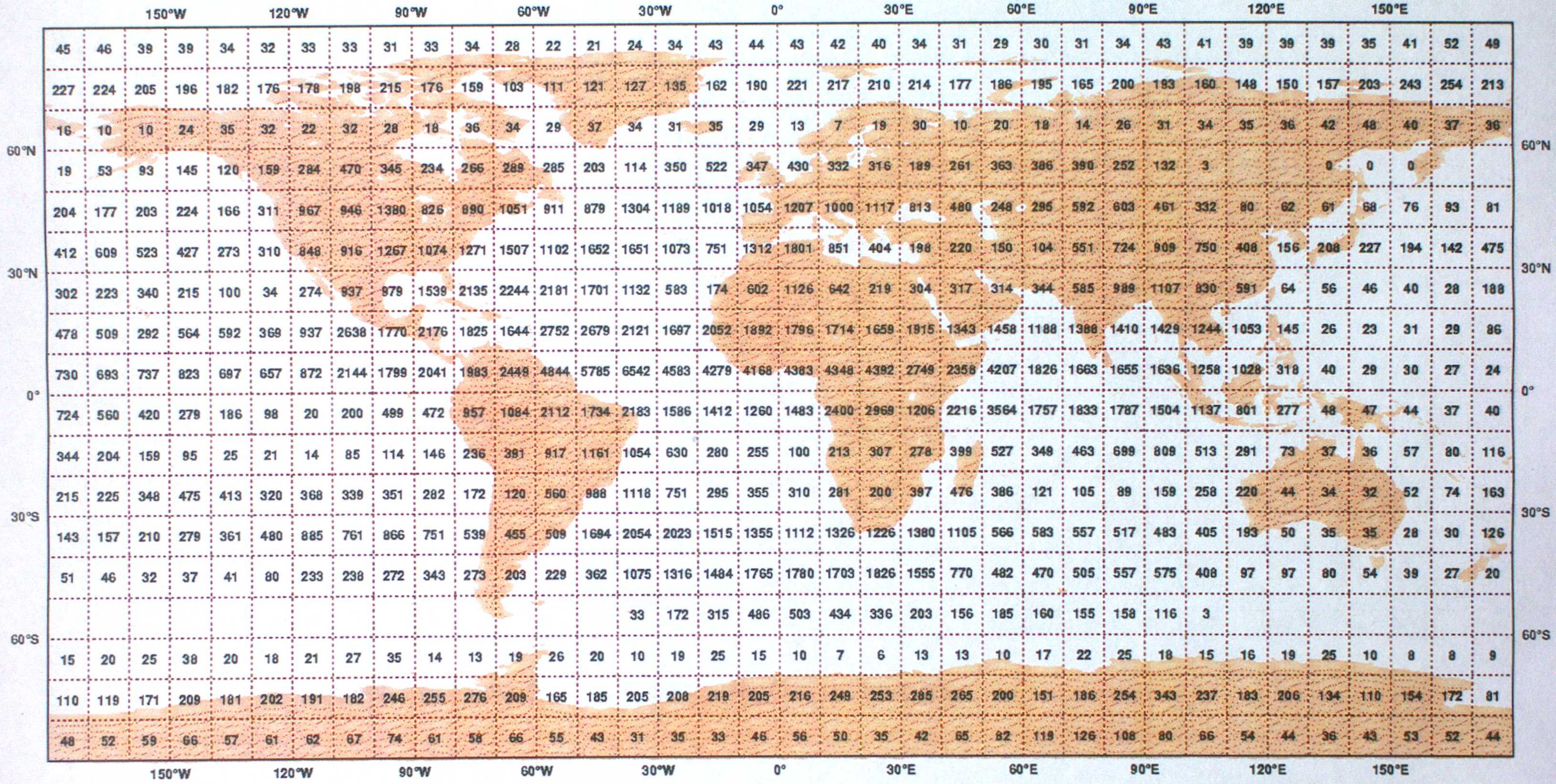
-0.0	-0.4	-0.4	-0.9	-0.9	-1.1	-1.0	-0.6	-0.4	0.0	-0.5	-0.8	-0.7	-1.0	-0.9	-1.2	-1.1	-0.7	-0.6	-1.1	-1.6	-1.2	-1.0	-1.3	-1.1	-1.1	-1.2	-1.0	-1.1	-0.2	-0.4	-0.3	-0.0	-0.2	-0.4	-0.5
-0.4	-0.1	-0.6	-0.6	-0.7	-0.8	-0.1	-0.1	-0.0	-0.0	-0.0	0.3	-0.2	0.1	0.6	0.3	-0.3	-0.7	-0.7	-0.6	-0.8	-0.7	-0.3	-0.8	-1.2	-1.2	-1.1	-1.1	-0.8	-0.5	-0.9	-0.9	-1.0	-0.9	-0.5	-0.6
-0.3	0.1	-0.6	0.7	-0.3	0.3	0.5	0.1	0.2	-0.4	-0.1	0.3	-0.8	-0.0	0.1	-0.9	-1.3	-0.7	-1.1	-0.5	-0.4	-0.5	-0.4	-0.4	-0.0	-0.7	-0.3	-0.8	-0.6	-1.0	-0.9	-1.2	-0.7	-1.0	-0.4	-0.3
-0.2	0.0	-0.4	-0.7	-0.2	-1.9	-2.0	-0.9	-1.5	-1.5	-2.3	-2.6	-2.3	-1.8	-0.8	1.2	0.3	1.1	0.2	0.0	0.2	-0.6	-0.5	-0.7	-1.0	-1.0	-1.6	-1.4								
-0.8	-0.4	-0.9	-0.4	-0.4	-0.9	-2.2	-1.8	-0.8	-1.2	-1.5	-1.4	-1.4	0.5	0.0	0.5	0.9	1.1	-0.3	-0.5	-0.5	-1.0	-3.0	0.1	-1.0	-1.0	-0.7	-0.9	0.1	-1.3	-1.7	1.0	-1.1	-1.0	-0.7	-0.5
-1.3	-0.8	-0.7	-0.5	0.1	-0.3	-0.8	-0.9	-0.5	-1.1	-1.2	-1.1	0.1	1.2	0.5	-0.5	-0.4	-1.0	-0.2	-0.6	-1.2	-3.2	-3.4	0.3	-2.1	-1.7	0.1	-1.1	0.4	1.8	-0.7	-0.6	-0.0	0.1	-1.9	-1.0
0.4	-0.6	-1.1	-1.6	0.5	1.7	2.1	1.0	0.5	-0.1	-0.7	0.6	4.1	1.9	1.3	1.2	0.3	-0.2	-0.1	-0.4	-0.4	-0.7	0.2	0.9	-1.4	-0.7	-0.3	-1.0	-0.7	0.0	0.1			0.4	-0.0	0.2
2.3	1.1	1.5	1.8	2.0	0.7	2.2	0.9	1.3	0.6	0.4	1.2	2.8	3.7	1.8	1.5	1.2	0.3	0.2	0.3	-0.1	1.1	1.5	3.0	1.3	1.4	2.5	2.9	9.8	4.3						2.1
0.8	1.4	1.8	1.3	1.7	2.7	1.8	2.2	2.3	2.1	0.1	-0.2	0.1	0.1	-0.1	0.1	0.9	1.0	0.2	0.1	1.9	2.0	6.8	7.2	3.6	4.2	4.4	2.1	1.4	1.6	1.7					
0.6	0.4	0.4	1.4	2.5	3.0	5.3	2.4	2.9	2.8	0.8	1.0	2.4	2.3	1.6	2.1	3.6	3.8	2.9	2.2	2.2	1.7	2.0	4.3	3.3	1.4	1.9	1.5	1.7	0.9	-0.3	-0.5				
-0.7	1.8	3.0	2.1	0.8	0.2	0.7	1.9	3.5	2.9	0.1	-0.9	2.9	3.7	3.0	3.5	2.9	2.9	3.0	0.2	0.5	0.1	0.9	1.6	3.0	3.3	2.4	1.5	2.5	0.0	-1.0	1.7		2.2	1.7	-2.2
-3.0	-2.4	-2.1	-1.7	-1.3	-1.6	-3.1	-3.1	-3.1	-3.8	-1.6	-1.3	0.4	-0.7	-2.3	-2.1	-1.9	-1.7	-0.1	-1.2	-1.7	-1.4	-2.0	-2.5	-0.4	1.0	-0.8	1.7	-1.2	-1.6	-2.5	-0.1	-0.1	-2.5	-3.1	-3.7
-2.0	-2.1	-2.3	-1.9	-2.0	-2.2	-2.2	-2.0	-3.0	-3.0	-3.8	-2.1	-2.6	-2.6	-2.9	-3.0	-3.1	-0.8	-0.1	0.1	-1.8	-2.3	-1.2	-1.3	-0.8	-0.9	-1.9	-1.6	-1.2	-1.9	-1.8	-1.3	0.1	-1.4	-3.6	-2.8
-1.7	-0.7	-0.1	-1.4	-0.3	-0.0	-0.7	-0.8	-1.5	-1.5	-2.8	-2.4	-3.0	-3.2	-2.0	-1.6	-1.2	-1.0	-0.3	-0.1	-1.1	-1.4	-1.9	-3.2	-4.5	-5.5	-5.7	-4.7	-3.2	-1.6	-0.9	-0.7	-1.7	-4.0	-3.6	-1.8
														-2.7	-1.9	-1.7	-1.3	-0.8	-1.4	-2.0	-3.0	-2.3	-1.7	-1.5	-1.4	-1.8	-2.7								
0.0	0.5	-0.5	-0.3	-0.3	-0.2	-0.5	-0.4	-0.1	-1.4	-0.9	-0.4	-0.3	-1.0	-0.3	-0.8	-0.0	0.3	0.2	-2.1	-1.1	-0.2	0.6	-1.3	-0.2	-0.7	-0.8	-1.5	-1.1	0.1	-0.7	-0.4	-1.8	-0.6	-0.3	0.4
-0.4	-0.2	-0.2	0.1	-0.0	-0.3	0.0	-0.3	-0.4	-1.0	-2.0	-1.3	-0.7	-0.6	-0.4	-0.6	0.6	-0.1	-0.6	-1.0	-0.9	-0.2	-0.3	-0.7	0.1	-0.3	-1.1	-0.7	-0.8	-0.7	-0.5	-0.6	-0.4	-0.1	-0.7	-0.6
-0.5	-0.5	-0.1	-0.2	-0.4	-0.5	-1.1	-1.6	-1.2	-1.6	-1.5	-0.6	-0.7	-0.8	-1.2	-0.9	-0.7	-1.1	-2.0	-2.0	-1.8	-2.1	-2.5	-2.1	-2.6	-2.6	-2.7	-2.1	-1.3	-1.2	-1.6	-0.7	-0.5	-0.8	-1.5	-0.6

Figure 19. SATOB 401 - 700 hPa mean RMS O-B vector differences (ms-1). JUNE 2006
All observations
Values are plotted where greater than 10 obs are present



5.2	4.4	4.3	4.5	4.9	4.6	4.7	4.3	4.2	4.4	4.3	4.3	4.3	4.8	4.5	4.4	4.3	4.2	4.1	4.3	4.4	4.4	4.4	4.7	4.7	4.8	4.9	5.0	5.0	4.7	4.3	4.6	4.4	4.3	4.5	4.8
4.4	4.2	4.3	4.3	4.3	4.6	4.4	4.3	4.2	4.1	4.3	4.2	4.1	4.2	4.4	4.4	4.4	4.3	4.0	4.2	4.2	4.3	4.4	4.4	4.5	4.7	4.4	4.7	4.7	4.5	4.5	4.6	4.5	4.4	4.3	4.4
4.6	4.4	4.4	4.1	4.3	4.4	4.2	4.2	4.8	4.1	4.4	4.5	4.6	4.4	5.0	4.3	4.9	4.5	4.3	4.1	3.7	3.8	3.6	4.2	3.9	3.7	4.0	4.4	4.5	4.8	4.7	4.3	4.3	4.2	4.3	4.0
3.9	3.9	3.9	3.7	3.8	4.9	5.1	4.3	4.4	4.7	5.0	5.1	4.9	4.5	5.1	7.0	6.9	6.1	6.2	5.1	5.3	4.5	4.1	5.2	5.9	5.6	6.5	5.6								
4.1	3.9	4.0	3.8	4.0	4.3	4.8	4.6	4.1	4.3	4.6	4.1	4.1	4.8	6.9	6.4	6.3	5.8	6.1	5.2	4.9	5.3	6.6	4.7	4.7	5.7	5.1	5.7	5.5	5.8	4.5	5.8	4.8	5.7	6.6	4.2
4.5	4.2	4.3	4.4	4.2	4.1	4.8	4.4	4.3	4.2	4.3	4.5	3.9	5.9	6.7	6.0	5.5	5.7	5.6	5.9	5.4	7.0	6.4	5.6	7.5	5.7	7.2	7.1	9.5	8.3	5.0	4.8	5.6	6.3	5.9	4.1
4.1	4.5	4.5	4.8	4.7	3.9	4.6	4.2	3.7	3.8	4.4	4.5	8.2	7.5	7.2	7.0	6.8	6.1	5.5	4.9	5.8	5.8	5.6	5.5	7.1	4.8	4.6	4.2	4.0	6.8	3.7			3.5	4.0	4.4
5.2	5.2	5.1	5.2	5.0	5.2	5.0	4.2	3.9	3.9	3.7	3.9	8.7	9.9	8.8	6.7	6.6	6.0	6.1	6.4	5.3	5.8	6.5	7.9	4.5	5.7	6.6	7.8	18.6	10.4						3.6
3.7	4.6	5.1	4.9	4.6	5.1	5.1	5.7	5.2	4.7	3.4	3.1	3.6	4.1	4.6	5.5	5.3	5.1	5.0	4.7	5.1	6.6	13.6	17.4	10.9	13.6	11.3	7.5	6.4	5.8	4.3					
3.8	4.5	4.0	5.1	5.1	5.8	8.3	9.1	11.3	5.6	3.8	3.4	6.3	6.0	5.0	6.5	7.5	7.0	6.2	6.3	6.2	6.8	7.7	8.8	8.5	6.5	6.6	5.0	6.2	4.3	4.2	3.0				
4.9	5.2	5.6	5.8	5.1	5.6	5.5	6.5	7.5	5.9	5.1	4.5	8.4	9.8	8.9	10.6	10.7	10.3	8.3	6.2	7.1	7.6	7.0	6.9	8.8	12.4	10.1	6.9	9.3	9.6	7.7	7.1		7.9	6.5	7.4
6.7	5.7	5.6	5.2	4.8	5.2	6.2	6.6	7.1	7.6	5.9	6.0	7.5	10.5	10.9	10.8	9.3	9.3	9.8	10.8	9.5	7.4	7.8	8.8	12.9	15.4	12.4	13.1	13.8	11.3	7.5	7.5	8.5	8.2	7.9	6.6
5.5	5.2	5.6	5.0	4.9	5.3	5.5	5.5	6.5	6.2	6.1	6.0	6.3	7.9	8.0	8.4	8.9	8.8	10.8	11.0	11.2	10.3	9.9	10.9	10.8	11.5	9.3	8.7	8.2	8.9	8.3	6.8	6.2	6.3	8.0	5.9
5.2	5.6	4.8	4.5	4.4	4.9	5.2	5.0	5.3	5.8	6.1	5.5	6.0	6.6	7.5	7.5	7.5	8.2	8.8	8.7	9.4	9.2	10.9	12.4	12.2	12.7	12.5	12.7	10.7	9.0	7.9	8.2	8.6	10.5	10.3	5.3
														6.9	6.8	7.1	7.4	7.6	7.8	8.1	9.4	10.3	9.2	8.9	9.0	8.6	9.4								
4.8	5.2	5.5	4.9	5.0	4.9	5.0	4.4	4.4	4.9	5.1	5.0	4.5	4.8	4.6	6.1	5.1	4.9	4.9	5.2	5.4	5.0	4.2	5.3	4.7	5.4	5.1	5.1	5.2	4.8	4.9	5.4	5.2	4.9	5.2	5.1
4.5	4.6	4.8	4.7	4.9	4.8	4.9	4.8	4.5	4.9	5.3	5.2	4.7	4.9	4.8	5.3	5.9	5.4	4.9	5.1	5.2	5.3	5.8	5.3	5.3	5.4	5.1	4.6	4.5	4.8	4.6	4.5	4.4	4.7	4.7	4.7
4.6	4.5	4.3	4.4	4.4	4.7	5.1	5.1	5.1	4.9	5.0	5.2	5.8	5.6	5.6	5.5	5.3	5.5	5.6	5.4	5.3	5.1	5.2	5.0	6.0	5.4	5.0	4.8	4.8	4.7	4.9	4.6	4.6	5.1	4.8	4.5

Figure 20. SATOB 101 - 400 hPa mean daily count. JUNE 2006
Global average number of observations in 24 hours = 328084



45	46	39	39	34	32	33	33	31	33	34	28	22	21	24	34	43	44	43	42	40	34	31	29	30	31	34	43	41	39	39	39	35	41	52	49
227	224	205	196	182	176	178	198	215	176	159	103	111	121	127	135	162	190	221	217	210	214	177	186	195	165	200	193	160	148	150	157	203	243	254	213
16	10	10	24	35	32	22	32	28	18	36	34	29	37	34	31	35	29	13	7	19	30	10	20	18	14	26	31	34	35	36	42	48	40	37	36
19	53	93	145	120	159	284	470	345	234	266	289	285	203	114	350	522	347	430	332	316	189	261	363	386	390	252	132	3			0	0	0		
204	177	203	224	166	311	967	946	1380	826	890	1051	911	879	1304	1189	1018	1054	1207	1000	1117	813	480	248	295	592	603	461	332	80	62	61	68	76	93	81
412	609	523	427	273	310	848	916	1267	1074	1271	1507	1102	1652	1651	1073	751	1312	1801	851	404	198	220	150	104	551	724	909	750	408	156	208	227	194	142	475
302	223	340	215	100	34	274	937	979	1539	2135	2244	2181	1701	1132	583	174	602	1126	642	219	304	317	314	344	585	989	1107	830	591	64	56	46	40	28	188
478	509	292	564	592	369	937	2638	1770	2176	1825	1644	2752	2679	2121	1697	2052	1892	1796	1714	1659	1915	1343	1458	1188	1388	1410	1429	1244	1053	145	26	23	31	29	86
730	693	737	823	697	657	872	2144	1799	2041	1983	2449	4844	5785	6542	4583	4279	4168	4383	4348	4392	2749	2358	4207	1826	1663	1655	1636	1258	1028	318	40	29	30	27	24
724	560	420	279	186	98	20	200	499	472	957	1084	2112	1734	2183	1586	1412	1260	1483	2400	2969	1206	2216	3564	1757	1833	1787	1504	1137	801	277	48	47	44	37	40
344	204	159	95	25	21	14	85	114	146	236	391	917	1161	1054	630	280	255	100	213	307	278	399	527	349	463	699	809	513	291	73	37	36	57	80	116
215	225	348	475	413	320	368	339	351	282	172	120	560	988	1118	751	295	355	310	281	200	397	476	386	121	105	89	159	258	220	44	34	32	52	74	163
143	157	210	279	361	480	885	761	866	751	539	455	509	1694	2054	2023	1515	1355	1112	1326	1226	1380	1105	566	583	557	517	483	405	193	50	35	35	28	30	126
51	46	32	37	41	80	233	238	272	343	273	203	229	362	1075	1316	1484	1765	1780	1703	1826	1555	770	482	470	505	557	575	408	97	97	80	54	39	27	20
														33	172	315	486	503	434	336	203	156	185	160	155	158	116	3							
15	20	25	38	20	18	21	27	35	14	13	19	26	20	10	19	25	15	10	7	6	13	13	10	17	22	25	18	15	16	19	25	10	8	8	9
110	119	171	209	181	202	191	182	246	255	276	209	165	185	205	208	219	205	216	249	253	285	265	200	151	186	254	343	237	183	206	134	110	154	172	81
48	52	59	66	57	61	62	67	74	61	58	66	55	43	31	35	33	46	56	50	35	42	65	82	119	126	108	80	66	54	44	36	43	53	52	44

Figure 21. SATOB 101 - 400 hPa vector mean wind. JUNE 2006
All observations
Arrows are plotted where greater than 10 obs are present

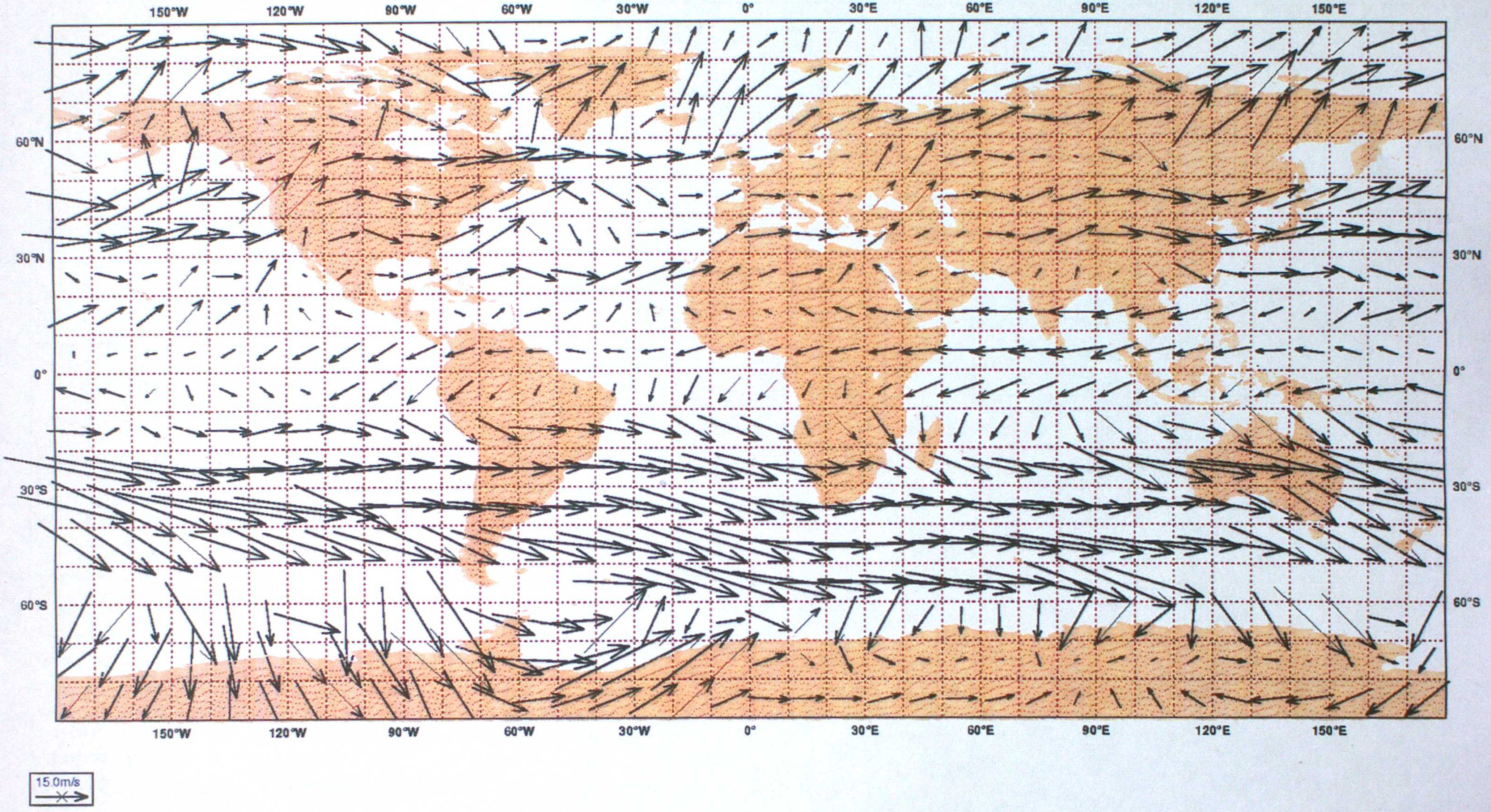

150°W
120°W
90°W
60°W
30°W
0°
30°E
60°E
90°E
120°E
150°E
60°N
30°N
0°
30°S
60°S
15.0m/s

Figure 22. SATOB 101 - 400 hPa mean vector wind differences. JUNE 2006
All observations
Arrows are plotted where greater than 10 obs are present

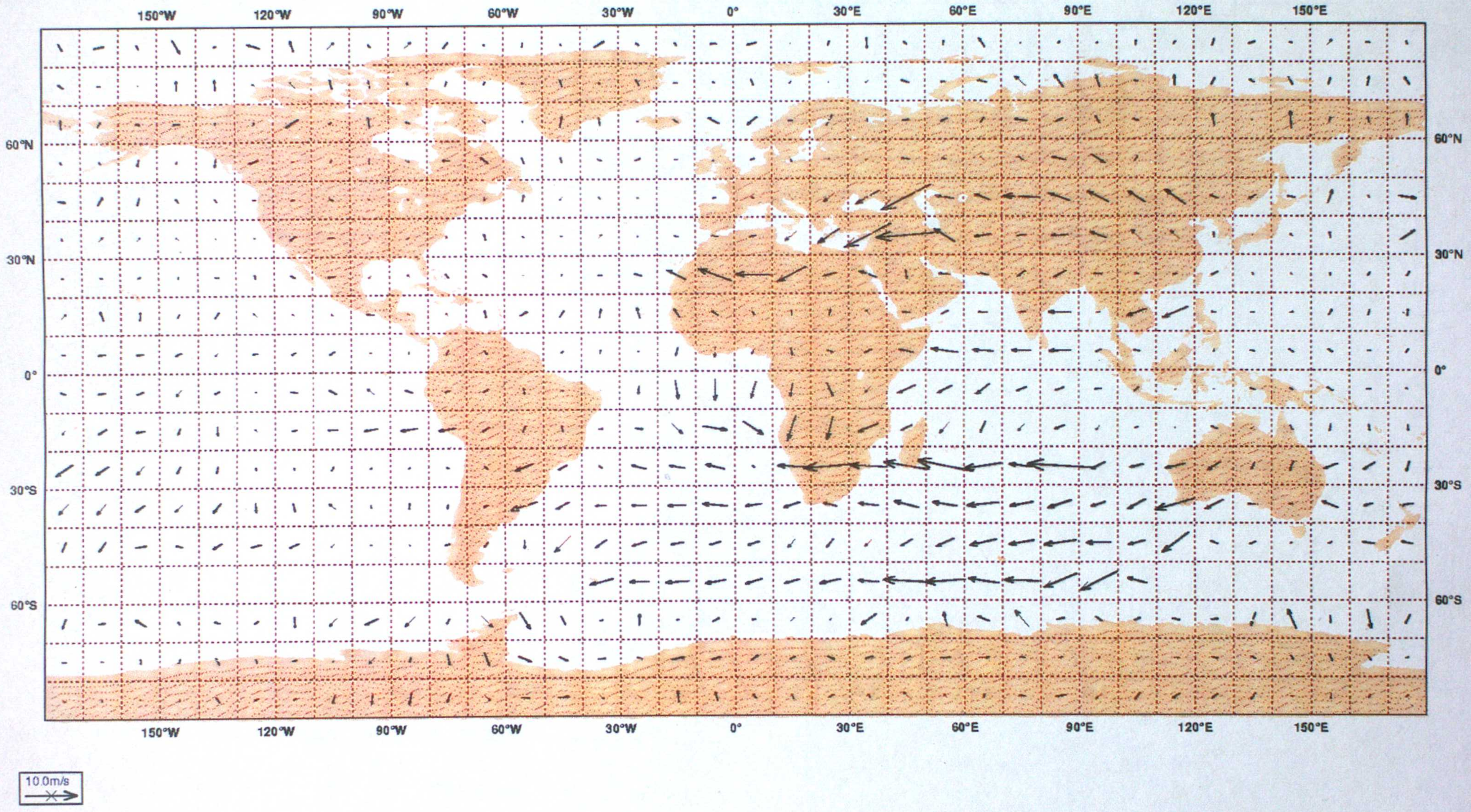
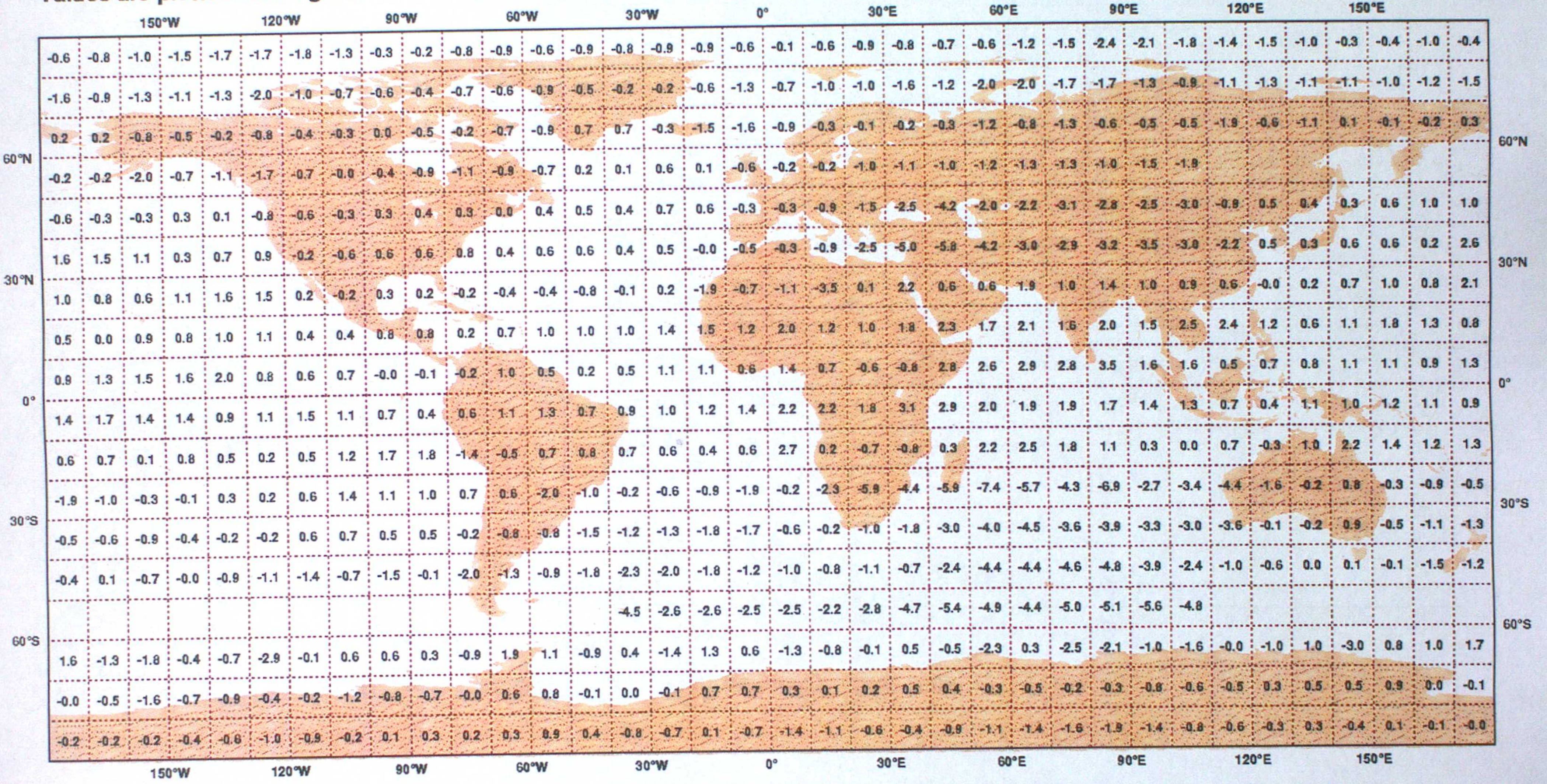
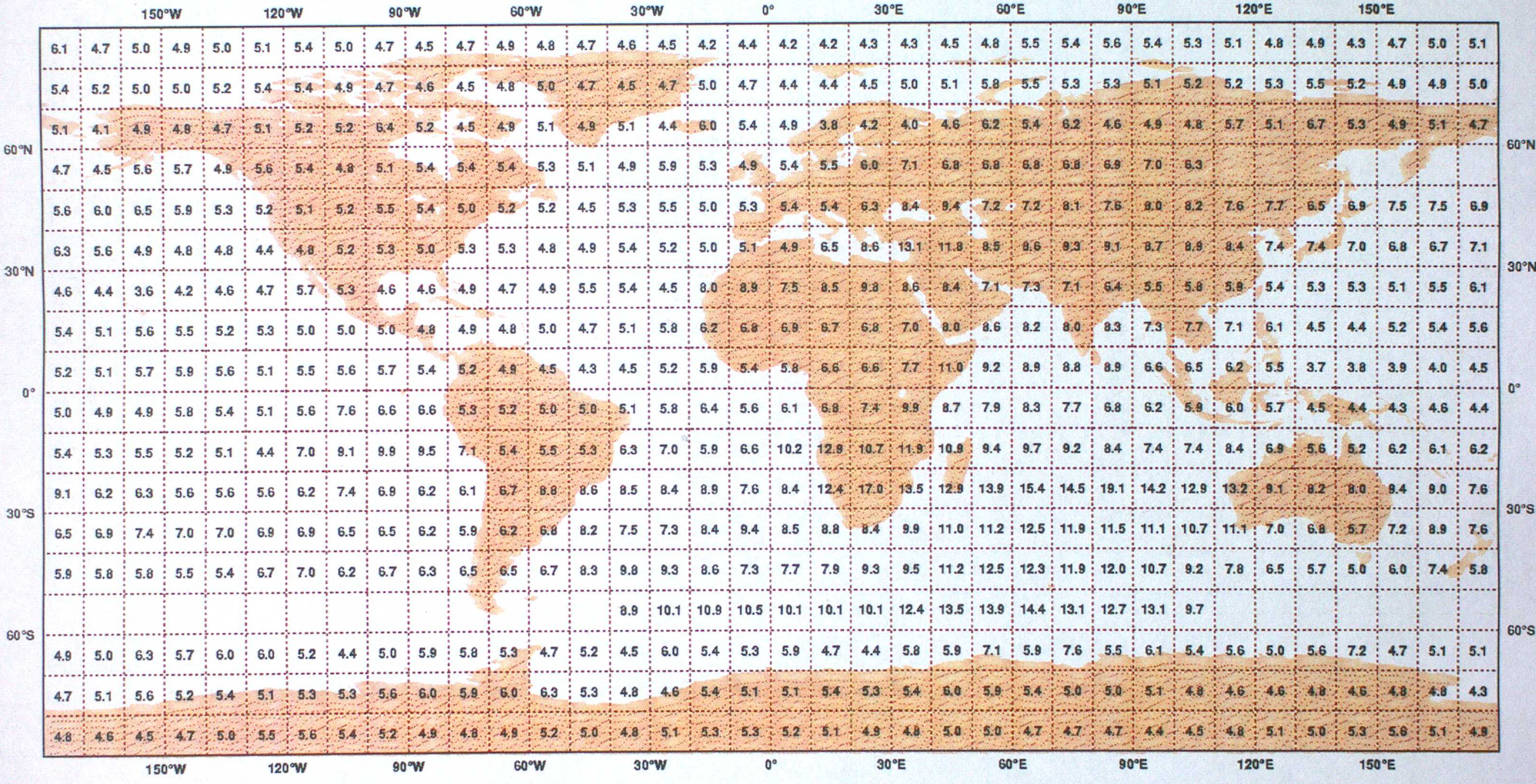

150°W
120°W
90°W
60°W
30°W
0°
30°E
60°E
90°E
120°E
150°E
60°N
30°N
0°
30°S
60°S
10.0m/s

Figure 23. SATOB 101 - 400 hPa mean O-B speed differences (ms-1). JUNE 2006
All observations
Values are plotted where greater than 10 obs are present



-0.6	-0.8	-1.0	-1.5	-1.7	-1.7	-1.8	-1.3	-0.3	-0.2	-0.8	-0.9	-0.6	-0.9	-0.8	-0.9	-0.9	-0.6	-0.1	-0.6	-0.9	-0.8	-0.7	-0.6	-1.2	-1.5	-2.4	-2.1	-1.8	-1.4	-1.5	-1.0	-0.3	-0.4	-1.0	-0.4
-1.6	-0.9	-1.3	-1.1	-1.3	-2.0	-1.0	-0.7	-0.6	-0.4	-0.7	-0.6	-0.9	-0.5	-0.2	-0.2	-0.6	-1.3	-0.7	-1.0	-1.0	-1.6	-1.2	-2.0	-2.0	-1.7	-1.7	-1.3	-0.9	-1.1	-1.3	-1.1	-1.1	-1.0	-1.2	-1.5
0.2	0.2	-0.8	-0.5	-0.2	-0.8	-0.4	-0.3	0.0	-0.5	-0.2	-0.7	-0.9	0.7	0.7	-0.3	-1.5	-1.6	-0.9	-0.3	-0.1	-0.2	-0.3	-1.2	-0.8	-1.3	-0.6	-0.5	-0.5	-1.9	-0.6	-1.1	0.1	-0.1	-0.2	0.3
-0.2	-0.2	-2.0	-0.7	-1.1	-1.7	-0.7	-0.0	-0.4	-0.9	-1.1	-0.9	-0.7	0.2	0.1	0.6	0.1	-0.6	-0.2	-0.2	-1.0	-1.1	-1.0	-1.2	-1.3	-1.3	-1.0	-1.5	-1.9							
-0.6	-0.3	-0.3	0.3	0.1	-0.8	-0.6	-0.3	0.3	0.4	0.3	0.0	0.4	0.5	0.4	0.7	0.6	-0.3	-0.3	-0.9	-1.5	-2.5	-4.2	-2.0	-2.2	-3.1	-2.8	-2.5	-3.0	-0.9	0.5	0.4	0.3	0.6	1.0	1.0
1.6	1.5	1.1	0.3	0.7	0.9	-0.2	-0.6	0.6	0.6	0.8	0.4	0.6	0.6	0.4	0.5	-0.0	-0.5	-0.3	-0.9	-2.5	-5.0	-5.8	-4.2	-3.0	-2.9	-3.2	-3.5	-3.0	-2.2	0.5	0.3	0.6	0.6	0.2	2.6
1.0	0.8	0.6	1.1	1.6	1.5	0.2	-0.2	0.3	0.2	-0.2	-0.4	-0.4	-0.8	-0.1	0.2	-1.9	-0.7	-1.1	-3.5	0.1	2.2	0.6	0.6	1.9	1.0	1.4	1.0	0.9	0.6	-0.0	0.2	0.7	1.0	0.8	2.1
0.5	0.0	0.9	0.8	1.0	1.1	0.4	0.4	0.8	0.8	0.2	0.7	1.0	1.0	1.0	1.4	1.5	1.2	2.0	1.2	1.0	1.8	2.3	1.7	2.1	1.6	2.0	1.5	2.5	2.4	1.2	0.6	1.1	1.8	1.3	0.8
0.9	1.3	1.5	1.6	2.0	0.8	0.6	0.7	-0.0	-0.1	-0.2	1.0	0.5	0.2	0.5	1.1	1.1	0.6	1.4	0.7	-0.6	-0.8	2.8	2.6	2.9	2.8	3.5	1.6	1.6	0.5	0.7	0.8	1.1	1.1	0.9	1.3
1.4	1.7	1.4	1.4	0.9	1.1	1.5	1.1	0.7	0.4	0.6	1.1	1.3	0.7	0.9	1.0	1.2	1.4	2.2	2.2	1.8	3.1	2.9	2.0	1.9	1.9	1.7	1.4	1.3	0.7	0.4	1.1	1.0	1.2	1.1	0.9
0.6	0.7	0.1	0.8	0.5	0.2	0.5	1.2	1.7	1.8	-1.4	-0.5	0.7	0.8	0.7	0.6	0.4	0.6	2.7	0.2	-0.7	-0.8	0.3	2.2	2.5	1.8	1.1	0.3	0.0	0.7	-0.3	1.0	2.2	1.4	1.2	1.3
-1.9	-1.0	-0.3	-0.1	0.3	0.2	0.6	1.4	1.1	1.0	0.7	0.6	-2.0	-1.0	-0.2	-0.6	-0.9	-1.9	-0.2	-2.3	-5.9	-4.4	-5.9	-7.4	-5.7	-4.3	-6.9	-2.7	-3.4	-4.4	-1.6	-0.2	0.8	-0.3	-0.9	-0.5
-0.5	-0.6	-0.9	-0.4	-0.2	-0.2	0.6	0.7	0.5	0.5	-0.2	-0.8	-0.8	-1.5	-1.2	-1.3	-1.8	-1.7	-0.6	-0.2	-1.0	-1.8	-3.0	-4.0	-4.5	-3.6	-3.9	-3.3	-3.0	-3.6	-0.1	-0.2	0.9	-0.5	-1.1	-1.3
-0.4	0.1	-0.7	-0.0	-0.9	-1.1	-1.4	-0.7	-1.5	-0.1	-2.0	-1.3	-0.9	-1.8	-2.3	-2.0	-1.8	-1.2	-1.0	-0.8	-1.1	-0.7	-2.4	-4.4	-4.4	-4.6	-4.8	-3.9	-2.4	-1.0	-0.6	0.0	0.1	-0.1	-1.5	-1.2
														-4.5	-2.6	-2.6	-2.5	-2.5	-2.2	-2.8	-4.7	-5.4	-4.9	-4.4	-5.0	-5.1	-5.6	-4.8							
1.6	-1.3	-1.8	-0.4	-0.7	-2.9	-0.1	0.6	0.6	0.3	-0.9	1.9	1.1	-0.9	0.4	-1.4	1.3	0.6	-1.3	-0.8	-0.1	0.5	-0.5	-2.3	0.3	-2.5	-2.1	-1.0	-1.6	-0.0	-1.0	1.0	-3.0	0.8	1.0	1.7
-0.0	-0.5	-1.6	-0.7	-0.9	-0.4	-0.2	-1.2	-0.8	-0.7	-0.0	0.6	0.8	-0.1	0.0	-0.1	0.7	0.7	0.3	0.1	0.2	0.5	0.4	-0.3	-0.5	-0.2	-0.3	-0.8	-0.6	-0.5	0.3	0.5	0.5	0.9	0.0	-0.1
-0.2	-0.2	-0.2	-0.4	-0.6	-1.0	-0.9	-0.2	0.1	0.3	0.2	0.3	0.9	0.4	-0.8	-0.7	0.1	-0.7	-1.4	-1.1	-0.6	-0.4	-0.9	-1.1	-1.4	-1.6	-1.9	-1.4	-0.8	-0.6	-0.3	0.3	-0.4	0.1	-0.1	-0.0

Figure 24. SATOB 101 - 400 hPa mean RMS O-B vector differences (ms-1). JUNE 2006
All observations
Values are plotted where greater than 10 obs are present



6.1	4.7	5.0	4.9	5.0	5.1	5.4	5.0	4.7	4.5	4.7	4.9	4.8	4.7	4.6	4.5	4.2	4.4	4.2	4.2	4.3	4.3	4.5	4.8	5.5	5.4	5.6	5.4	5.3	5.1	4.8	4.9	4.3	4.7	5.0	5.1
5.4	5.2	5.0	5.0	5.2	5.4	5.4	4.9	4.7	4.6	4.5	4.8	5.0	4.7	4.5	4.7	5.0	4.7	4.4	4.4	4.5	5.0	5.1	5.8	5.5	5.3	5.3	5.1	5.2	5.2	5.3	5.5	5.2	4.9	4.9	5.0
5.1	4.1	4.9	4.8	4.7	5.1	5.2	5.2	6.4	5.2	4.5	4.9	5.1	4.9	5.1	4.4	6.0	5.4	4.9	3.8	4.2	4.0	4.6	6.2	5.4	6.2	4.6	4.9	4.8	5.7	5.1	6.7	5.3	4.9	5.1	4.7
4.7	4.5	5.6	5.7	4.9	5.6	5.4	4.8	5.1	5.4	5.4	5.4	5.3	5.1	4.9	5.9	5.3	4.9	5.4	5.5	6.0	7.1	6.8	6.8	6.8	6.8	6.9	7.0	6.3							
5.6	6.0	6.5	5.9	5.3	5.2	5.1	5.2	5.5	5.4	5.0	5.2	5.2	4.5	5.3	5.5	5.0	5.3	5.4	5.4	6.3	8.4	9.4	7.2	7.2	8.1	7.6	8.0	8.2	7.6	7.7	6.5	6.9	7.5	7.5	6.9
6.3	5.6	4.9	4.8	4.8	4.4	4.8	5.2	5.3	5.0	5.3	5.3	4.8	4.9	5.4	5.2	5.0	5.1	4.9	6.5	8.6	13.1	11.8	8.5	8.6	9.3	9.1	8.7	8.9	8.4	7.4	7.4	7.0	6.8	6.7	7.1
4.6	4.4	3.6	4.2	4.6	4.7	5.7	5.3	4.6	4.6	4.9	4.7	4.9	5.5	5.4	4.5	8.0	8.9	7.5	8.5	9.8	8.6	8.4	7.1	7.3	7.1	6.4	5.5	5.8	5.9	5.4	5.3	5.3	5.1	5.5	6.1
5.4	5.1	5.6	5.5	5.2	5.3	5.0	5.0	5.0	4.8	4.9	4.8	5.0	4.7	5.1	5.8	6.2	6.8	6.9	6.7	6.8	7.0	8.0	8.6	8.2	8.0	8.3	7.3	7.7	7.1	6.1	4.5	4.4	5.2	5.4	5.6
5.2	5.1	5.7	5.9	5.6	5.1	5.5	5.6	5.7	5.4	5.2	4.9	4.5	4.3	4.5	5.2	5.9	5.4	5.8	6.6	6.6	7.7	11.0	9.2	8.9	8.8	8.9	6.6	6.5	6.2	5.5	3.7	3.8	3.9	4.0	4.5
5.0	4.9	4.9	5.8	5.4	5.1	5.6	7.6	6.6	6.6	5.3	5.2	5.0	5.0	5.1	5.8	6.4	5.6	6.1	6.8	7.4	9.9	8.7	7.9	8.3	7.7	6.8	6.2	5.9	6.0	5.7	4.5	4.4	4.3	4.6	4.4
5.4	5.3	5.5	5.2	5.1	4.4	7.0	9.1	9.9	9.5	7.1	5.4	5.5	5.3	6.3	7.0	5.9	6.6	10.2	12.9	10.7	11.9	10.9	9.4	9.7	9.2	8.4	7.4	7.4	8.4	6.9	5.6	5.2	6.2	6.1	6.2
9.1	6.2	6.3	5.6	5.6	5.6	6.2	7.4	6.9	6.2	6.1	6.7	8.8	8.6	8.5	8.4	8.9	7.6	8.4	12.4	17.0	13.5	12.9	13.9	15.4	14.5	19.1	14.2	12.9	13.2	9.1	8.2	8.0	9.4	9.0	7.6
6.5	6.9	7.4	7.0	7.0	6.9	6.9	6.5	6.5	6.2	5.9	6.2	6.8	8.2	7.5	7.3	8.4	9.4	8.5	8.8	8.4	9.9	11.0	11.2	12.5	11.9	11.5	11.1	10.7	11.1	7.0	6.8	5.7	7.2	8.9	7.6
5.9	5.8	5.8	5.5	5.4	6.7	7.0	6.2	6.7	6.3	6.5	6.5	6.7	8.3	9.8	9.3	8.6	7.3	7.7	7.9	9.3	9.5	11.2	12.5	12.3	11.9	12.0	10.7	9.2	7.8	6.5	5.7	5.0	6.0	7.4	5.8
														8.9	10.1	10.9	10.5	10.1	10.1	10.1	12.4	13.5	13.9	14.4	13.1	12.7	13.1	9.7							
4.9	5.0	6.3	5.7	6.0	6.0	5.2	4.4	5.0	5.9	5.8	5.3	4.7	5.2	4.5	6.0	5.4	5.3	5.9	4.7	4.4	5.8	5.9	7.1	5.9	7.6	5.5	6.1	5.4	5.6	5.0	5.6	7.2	4.7	5.1	5.1
4.7	5.1	5.6	5.2	5.4	5.1	5.3	5.3	5.6	6.0	5.9	6.0	6.3	5.3	4.8	4.6	5.4	5.1	5.1	5.4	5.3	5.4	6.0	5.9	5.4	5.0	5.0	5.1	4.8	4.6	4.6	4.8	4.6	4.8	4.8	4.3
4.8	4.6	4.5	4.7	5.0	5.5	5.6	5.4	5.2	4.9	4.8	4.9	5.2	5.0	4.8	5.1	5.3	5.3	5.2	5.1	4.9	4.8	5.0	5.0	4.7	4.7	4.7	4.4	4.5	4.8	5.1	5.0	5.3	5.6	5.1	4.9

MONITORING OF SATELLITE TEMPERATURES

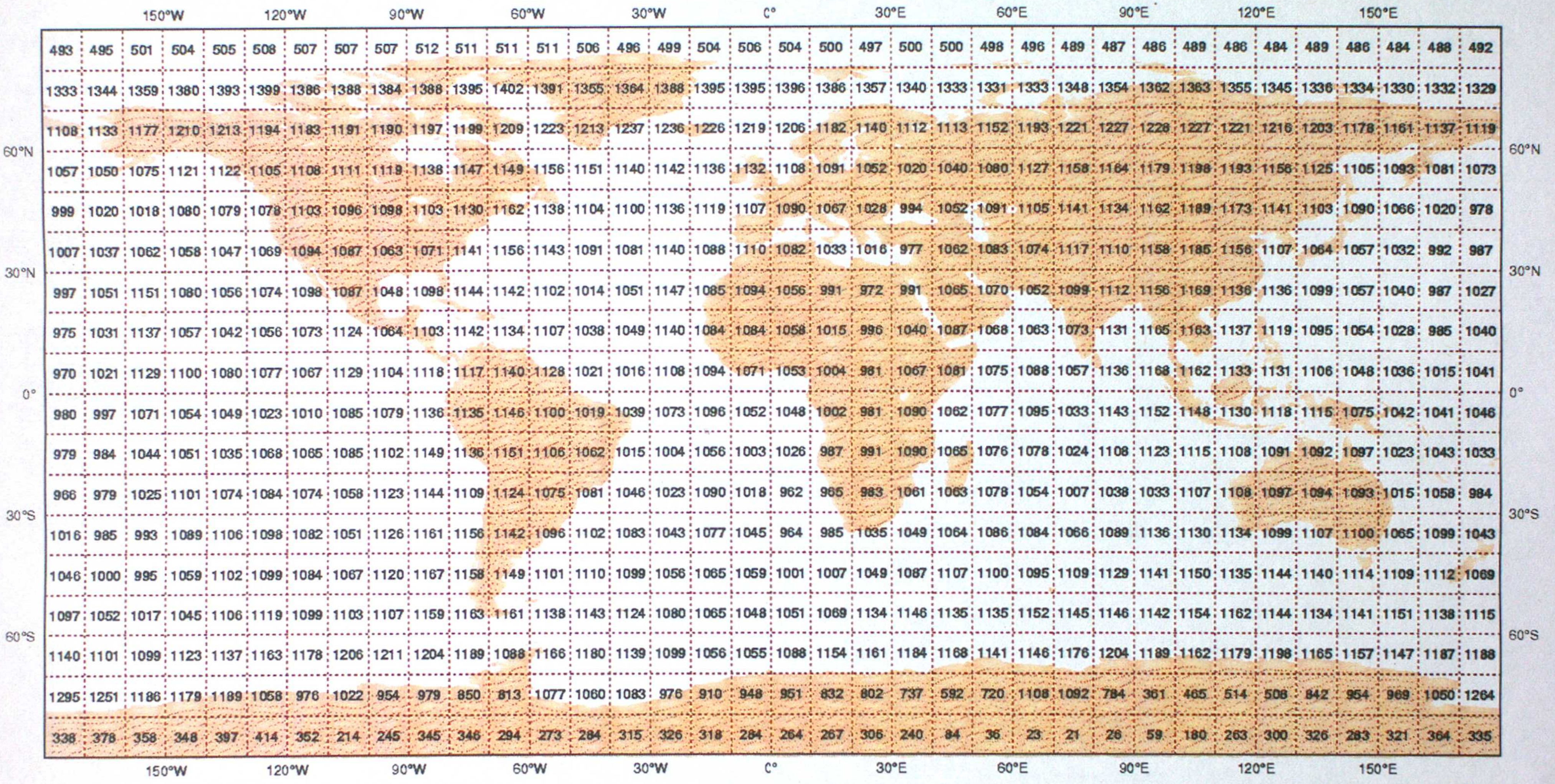
MONITORING CENTRE: EXETER

MONTH: Jun 06

Monitoring procedures

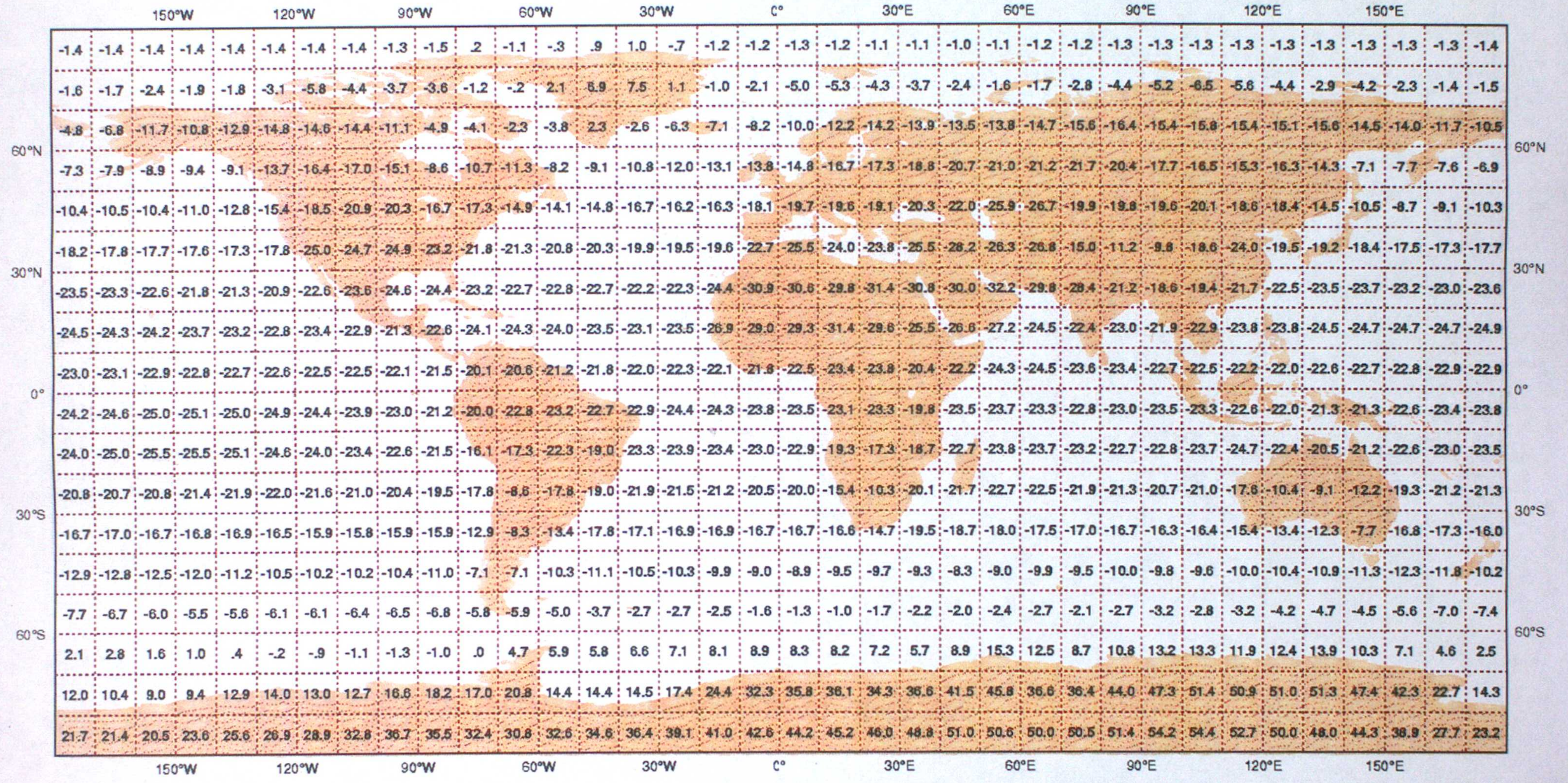
Period	:One calendar month.
Data monitored	:Reports from NOAA-15, NOAA-16 and NOAA-17.
Standard of comparison	:Background field from UKMO global model.
Selection Criteria	:All soundings.
Data Extracted	:Sounding channels (and approximate weighting function peaks, hPa) HIRS8 (Surface) HIRS15 (700) HIRS11 (500-700) HIRS4 (400) AMSUA5 (700) AMSUA7 (300) AMSUA9 (100)
	:Mean and standard deviation observation-minus-background brightness temperature differences

Figure 25. ATOVS mean daily count. JUNE 2006
NOAA15, using all observations
Global average number of observations in 24 hours = 662078



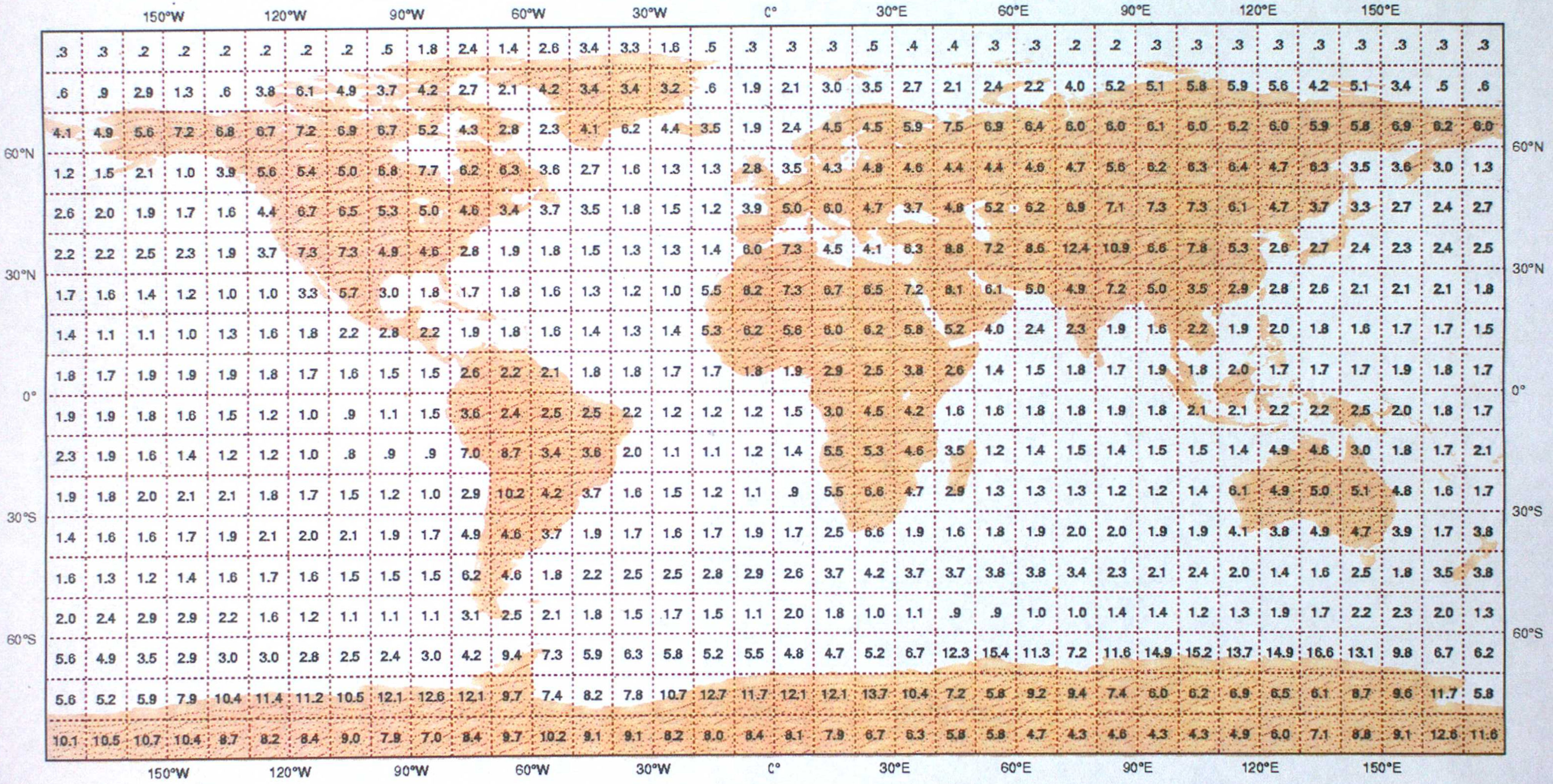
493	495	501	504	505	508	507	507	507	512	511	511	511	506	496	499	504	506	504	500	497	500	500	498	496	489	487	486	489	486	484	489	486	484	488	492
1333	1344	1359	1380	1393	1399	1386	1388	1384	1388	1395	1402	1391	1355	1364	1388	1395	1395	1396	1386	1357	1340	1333	1331	1333	1348	1354	1362	1363	1355	1345	1336	1334	1330	1332	1329
1108	1133	1177	1210	1213	1194	1183	1191	1190	1197	1199	1209	1223	1213	1237	1236	1226	1219	1206	1182	1140	1112	1113	1152	1193	1221	1227	1228	1227	1221	1216	1203	1178	1161	1137	1119
1057	1050	1075	1121	1122	1105	1108	1111	1119	1138	1147	1149	1156	1151	1140	1142	1136	1132	1108	1091	1052	1020	1040	1080	1127	1158	1164	1179	1198	1193	1156	1125	1105	1093	1081	1073
999	1020	1018	1080	1079	1078	1103	1096	1098	1103	1130	1162	1138	1104	1100	1136	1119	1107	1090	1067	1028	994	1052	1091	1105	1141	1134	1162	1189	1173	1141	1103	1090	1066	1020	978
1007	1037	1062	1058	1047	1069	1094	1087	1063	1071	1141	1156	1143	1091	1081	1140	1088	1110	1082	1033	1016	977	1062	1083	1074	1117	1110	1158	1185	1156	1107	1064	1057	1032	992	987
997	1051	1151	1080	1056	1074	1098	1087	1048	1098	1144	1142	1102	1014	1051	1147	1085	1094	1056	991	972	991	1065	1070	1052	1099	1112	1156	1169	1136	1136	1099	1057	1040	987	1027
975	1031	1137	1057	1042	1056	1073	1124	1064	1103	1142	1134	1107	1038	1049	1140	1084	1084	1058	1015	996	1040	1087	1068	1063	1073	1131	1165	1163	1137	1119	1095	1054	1028	985	1040
970	1021	1129	1100	1080	1077	1067	1129	1104	1118	1117	1140	1128	1021	1016	1108	1094	1071	1053	1004	981	1067	1081	1075	1088	1057	1136	1168	1162	1133	1131	1106	1048	1036	1015	1041
980	997	1071	1054	1049	1023	1010	1085	1079	1136	1135	1146	1100	1019	1039	1073	1096	1052	1048	1002	981	1090	1062	1077	1095	1033	1143	1152	1148	1130	1118	1115	1075	1042	1041	1046
979	984	1044	1051	1035	1068	1065	1085	1102	1149	1136	1151	1106	1062	1015	1004	1056	1003	1026	987	991	1090	1065	1076	1078	1024	1108	1123	1115	1108	1091	1092	1097	1023	1043	1033
966	979	1025	1101	1074	1084	1074	1058	1123	1144	1109	1124	1075	1081	1046	1023	1090	1018	962	965	983	1061	1063	1078	1054	1007	1038	1033	1107	1108	1097	1094	1093	1015	1058	984
1016	985	993	1089	1106	1098	1082	1051	1126	1161	1156	1142	1096	1102	1083	1043	1077	1045	964	985	1035	1049	1064	1086	1084	1066	1089	1136	1130	1134	1099	1107	1100	1065	1099	1043
1046	1000	995	1059	1102	1099	1084	1067	1120	1167	1158	1149	1101	1110	1099	1056	1065	1059	1001	1007	1049	1087	1107	1100	1095	1109	1129	1141	1150	1135	1144	1140	1114	1109	1112	1069
1097	1052	1017	1045	1106	1119	1099	1103	1107	1159	1163	1161	1138	1143	1124	1080	1065	1048	1051	1069	1134	1146	1135	1135	1152	1145	1146	1142	1154	1162	1144	1134	1141	1151	1138	1115
1140	1101	1099	1123	1137	1163	1178	1206	1211	1204	1189	1088	1166	1180	1139	1099	1056	1055	1088	1154	1161	1184	1168	1141	1146	1176	1204	1189	1162	1179	1198	1165	1157	1147	1187	1188
1295	1251	1186	1179	1189	1058	976	1022	954	979	850	813	1077	1060	1083	976	910	948	951	832	802	737	592	720	1108	1092	784	361	465	514	508	842	954	969	1050	1264
338	378	358	348	397	414	352	214	245	345	346	294	273	284	315	326	318	284	264	267	306	240	84	36	23	21	26	59	180	263	300	326	283	321	364	335

Figure 26. ATOVS MEAN O-B brightness temperature differences (deg C). JUNE 2006
Channel: HIRS8 (Surface)
NOAA15, using all observations



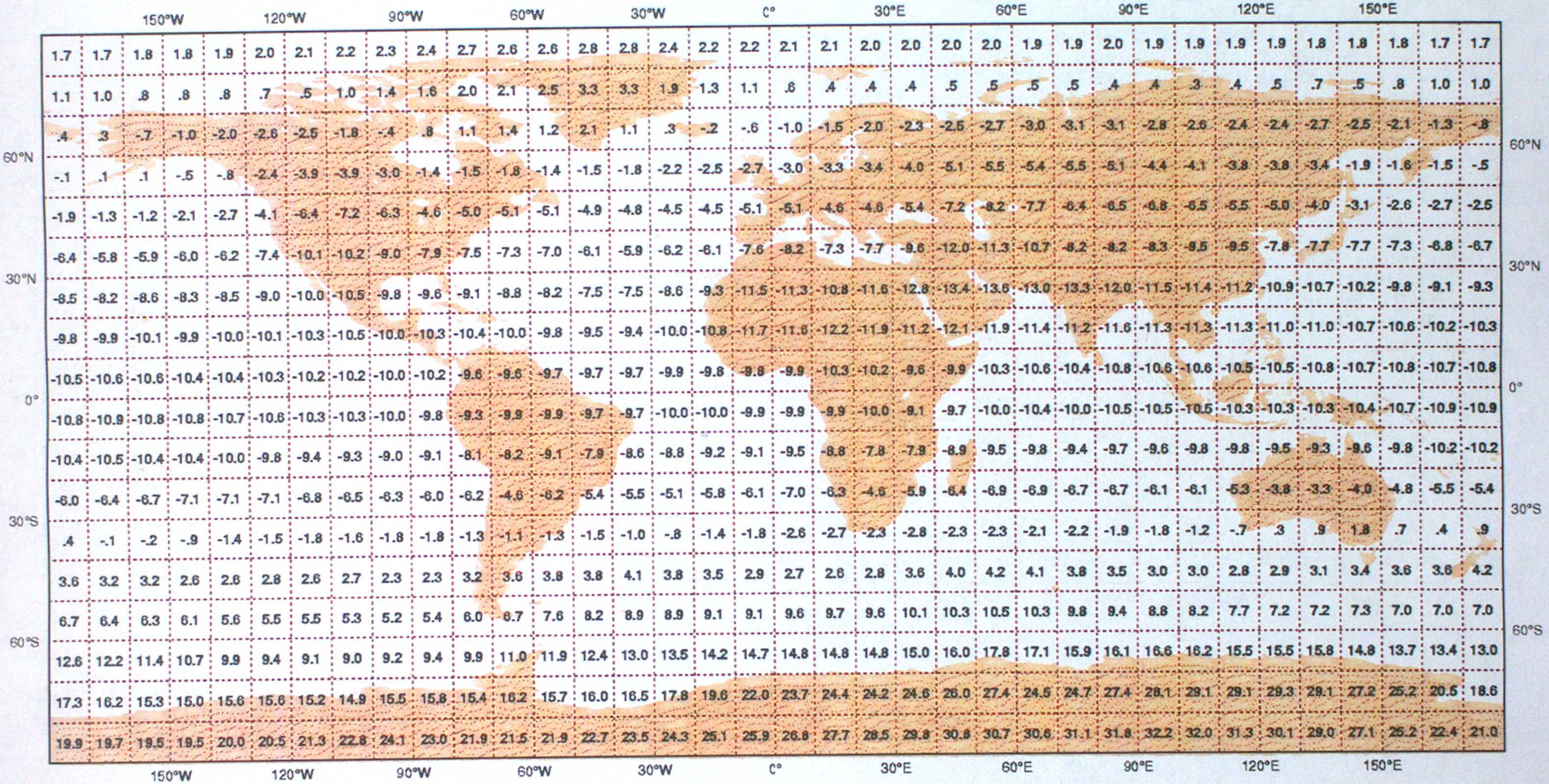
-1.4	-1.4	-1.4	-1.4	-1.4	-1.4	-1.4	-1.4	-1.3	-1.5	.2	-1.1	-.3	.9	1.0	-.7	-1.2	-1.2	-1.3	-1.2	-1.1	-1.1	-1.0	-1.1	-1.2	-1.2	-1.3	-1.3	-1.3	-1.3	-1.3	-1.3	-1.3	-1.3	-1.3	-1.4
-1.6	-1.7	-2.4	-1.9	-1.8	-3.1	-5.8	-4.4	-3.7	-3.6	-1.2	-.2	2.1	6.9	7.5	1.1	-1.0	-2.1	-5.0	-5.3	-4.3	-3.7	-2.4	-1.6	-1.7	-2.8	-4.4	-5.2	-6.5	-5.6	-4.4	-2.9	-4.2	-2.3	-1.4	-1.5
-4.8	-6.8	-11.7	-10.8	-12.9	-14.8	-14.6	-14.4	-11.1	-4.9	-4.1	-2.3	-3.8	2.3	-2.6	-6.3	-7.1	-8.2	-10.0	-12.2	-14.2	-13.9	-13.5	-13.8	-14.7	-15.6	-16.4	-15.4	-15.8	-15.4	-15.1	-15.6	-14.5	-14.0	-11.7	-10.5
-7.3	-7.9	-8.9	-9.4	-9.1	-13.7	-16.4	-17.0	-15.1	-8.6	-10.7	-11.3	-8.2	-9.1	-10.8	-12.0	-13.1	-13.8	-14.8	-16.7	-17.3	-18.8	-20.7	-21.0	-21.2	-21.7	-20.4	-17.7	-16.5	-15.3	-16.3	-14.3	-7.1	-7.7	-7.6	-6.9
-10.4	-10.5	-10.4	-11.0	-12.8	-15.4	-18.5	-20.9	-20.3	-16.7	-17.3	-14.9	-14.1	-14.8	-16.7	-16.2	-16.3	-18.1	-19.7	-19.6	-19.1	-20.3	-22.0	-25.9	-26.7	-19.9	-19.8	-19.6	-20.1	-18.6	-18.4	-14.5	-10.5	-8.7	-9.1	-10.3
-18.2	-17.8	-17.7	-17.6	-17.3	-17.8	-25.0	-24.7	-24.9	-23.2	-21.8	-21.3	-20.8	-20.3	-19.9	-19.5	-19.6	-22.7	-25.5	-24.0	-23.8	-25.5	-28.2	-26.3	-26.8	-15.0	-11.2	-9.8	-18.6	-24.0	-19.5	-19.2	-18.4	-17.5	-17.3	-17.7
-23.5	-23.3	-22.6	-21.8	-21.3	-20.9	-22.6	-23.6	-24.6	-24.4	-23.2	-22.7	-22.8	-22.7	-22.2	-22.3	-24.4	-30.9	-30.6	-29.8	-31.4	-30.8	-30.0	-32.2	-29.8	-28.4	-21.2	-18.6	-19.4	-21.7	-22.5	-23.5	-23.7	-23.2	-23.0	-23.6
-24.5	-24.3	-24.2	-23.7	-23.2	-22.8	-23.4	-22.9	-21.3	-22.6	-24.1	-24.3	-24.0	-23.5	-23.1	-23.5	-26.9	-29.0	-29.3	-31.4	-29.6	-25.5	-26.6	-27.2	-24.5	-22.4	-23.0	-21.9	-22.9	-23.8	-23.8	-24.5	-24.7	-24.7	-24.7	-24.9
-23.0	-23.1	-22.9	-22.8	-22.7	-22.6	-22.5	-22.5	-22.1	-21.5	-20.1	-20.6	-21.2	-21.8	-22.0	-22.3	-22.1	-21.8	-22.5	-23.4	-23.8	-20.4	-22.2	-24.3	-24.5	-23.6	-23.4	-22.7	-22.5	-22.2	-22.0	-22.6	-22.7	-22.8	-22.9	-22.9
-24.2	-24.6	-25.0	-25.1	-25.0	-24.9	-24.4	-23.9	-23.0	-21.2	-20.0	-22.8	-23.2	-22.7	-22.9	-24.4	-24.3	-23.8	-23.5	-23.1	-23.3	-19.8	-23.5	-23.7	-23.3	-22.8	-23.0	-23.5	-23.3	-22.6	-22.0	-21.3	-21.3	-22.6	-23.4	-23.8
-24.0	-25.0	-25.5	-25.5	-25.1	-24.6	-24.0	-23.4	-22.6	-21.5	-16.1	-17.3	-22.3	-19.0	-23.3	-23.9	-23.4	-23.0	-22.9	-19.3	-17.3	-18.7	-22.7	-23.8	-23.7	-23.2	-22.7	-22.8	-23.7	-24.7	-22.4	-20.5	-21.2	-22.6	-23.0	-23.5
-20.8	-20.7	-20.8	-21.4	-21.9	-22.0	-21.6	-21.0	-20.4	-19.5	-17.8	-8.6	-17.8	-19.0	-21.9	-21.5	-21.2	-20.5	-20.0	-15.4	-10.3	-20.1	-21.7	-22.7	-22.5	-21.9	-21.3	-20.7	-21.0	-17.6	-10.4	-9.1	-12.2	-19.3	-21.2	-21.3
-16.7	-17.0	-16.7	-16.8	-16.9	-16.5	-15.9	-15.8	-15.9	-15.9	-12.9	-8.3	-13.4	-17.8	-17.1	-16.9	-16.9	-16.7	-16.7	-16.6	-14.7	-19.5	-18.7	-18.0	-17.5	-17.0	-16.7	-16.3	-16.4	-15.4	-13.4	-12.3	-7.7	-16.8	-17.3	-16.0
-12.9	-12.8	-12.5	-12.0	-11.2	-10.5	-10.2	-10.2	-10.4	-11.0	-7.1	-7.1	-10.3	-11.1	-10.5	-10.3	-9.9	-9.0	-8.9	-9.5	-9.7	-9.3	-8.3	-9.0	-9.9	-9.5	-10.0	-9.8	-9.6	-10.0	-10.4	-10.9	-11.3	-12.3	-11.8	-10.2
-7.7	-6.7	-6.0	-5.5	-5.6	-6.1	-6.1	-6.4	-6.5	-6.8	-5.8	-5.9	-5.0	-3.7	-2.7	-2.7	-2.5	-1.6	-1.3	-1.0	-1.7	-2.2	-2.0	-2.4	-2.7	-2.1	-2.7	-3.2	-2.8	-3.2	-4.2	-4.7	-4.5	-5.6	-7.0	-7.4
2.1	2.8	1.6	1.0	.4	-.2	-.9	-1.1	-1.3	-1.0	.0	4.7	5.9	5.8	6.6	7.1	8.1	8.9	8.3	8.2	7.2	5.7	8.9	15.3	12.5	8.7	10.8	13.2	13.3	11.9	12.4	13.9	10.3	7.1	4.6	2.5
12.0	10.4	9.0	9.4	12.9	14.0	13.0	12.7	16.6	18.2	17.0	20.8	14.4	14.4	14.5	17.4	24.4	32.3	35.8	36.1	34.3	36.6	41.5	45.8	36.6	36.4	44.0	47.3	51.4	50.9	51.0	51.3	47.4	42.3	22.7	14.3
21.7	21.4	20.5	23.6	25.6	26.9	28.9	32.8	36.7	35.5	32.4	30.8	32.6	34.6	36.4	39.1	41.0	42.6	44.2	45.2	46.0	48.8	51.0	50.6	50.0	50.5	51.4	54.2	54.4	52.7	50.0	48.0	44.3	38.9	27.7	23.2

Figure 27. ATOVS SD O-B brightness temperature differences (deg C). JUNE 2006
Channel: HIRS8 (Surface)
NOAA15, using all observations



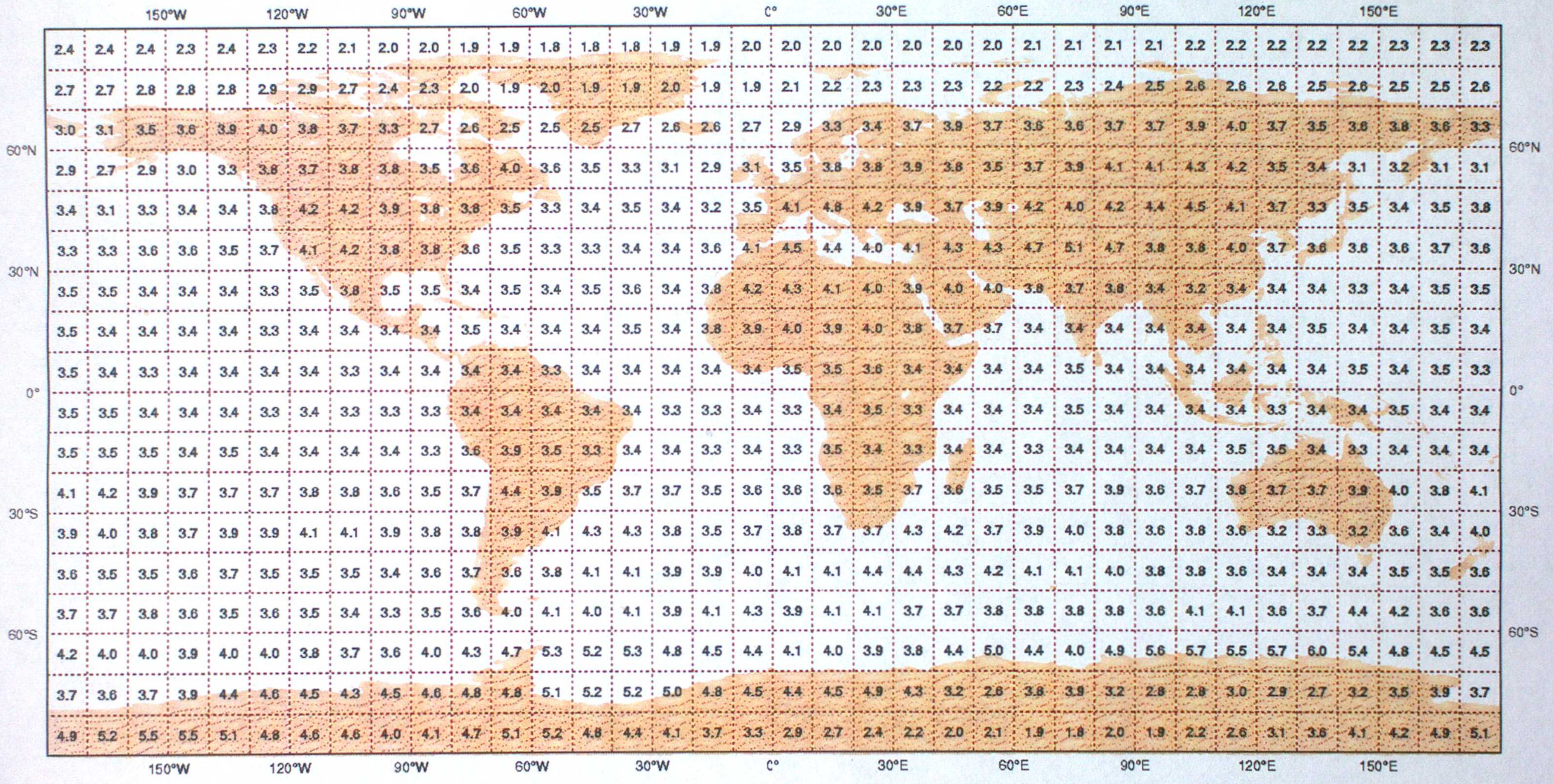
.3	.3	.2	.2	.2	.2	.2	.2	.5	1.8	2.4	1.4	2.6	3.4	3.3	1.6	.5	.3	.3	.3	.5	.4	.4	.3	.3	.2	.2	.3	.3	.3	.3	.3	.3	.3	.3	.3
.6	.9	2.9	1.3	.6	3.8	6.1	4.9	3.7	4.2	2.7	2.1	4.2	3.4	3.4	3.2	.6	1.9	2.1	3.0	3.5	2.7	2.1	2.4	2.2	4.0	5.2	5.1	5.8	5.9	5.6	4.2	5.1	3.4	.5	.6
4.1	4.9	5.6	7.2	6.8	6.7	7.2	6.9	6.7	5.2	4.3	2.8	2.3	4.1	6.2	4.4	3.5	1.9	2.4	4.5	4.5	5.9	7.5	6.9	6.4	6.0	6.0	6.1	6.0	6.2	6.0	5.9	5.8	6.9	6.2	6.0
1.2	1.5	2.1	1.0	3.9	5.6	5.4	5.0	6.8	7.7	6.2	6.3	3.6	2.7	1.6	1.3	1.3	2.8	3.5	4.3	4.8	4.6	4.4	4.4	4.6	4.7	5.6	6.2	6.3	6.4	4.7	6.3	3.5	3.6	3.0	1.3
2.6	2.0	1.9	1.7	1.6	4.4	6.7	6.5	5.3	5.0	4.6	3.4	3.7	3.5	1.8	1.5	1.2	3.9	5.0	6.0	4.7	3.7	4.8	5.2	6.2	6.9	7.1	7.3	7.3	6.1	4.7	3.7	3.3	2.7	2.4	2.7
2.2	2.2	2.5	2.3	1.9	3.7	7.3	7.3	4.9	4.6	2.8	1.9	1.8	1.5	1.3	1.3	1.4	6.0	7.3	4.5	4.1	6.3	8.8	7.2	8.6	12.4	10.9	6.6	7.8	5.3	2.6	2.7	2.4	2.3	2.4	2.5
1.7	1.6	1.4	1.2	1.0	1.0	3.3	5.7	3.0	1.8	1.7	1.8	1.6	1.3	1.2	1.0	5.5	8.2	7.3	6.7	6.5	7.2	8.1	6.1	5.0	4.9	7.2	5.0	3.5	2.9	2.8	2.6	2.1	2.1	2.1	1.8
1.4	1.1	1.1	1.0	1.3	1.6	1.8	2.2	2.8	2.2	1.9	1.8	1.6	1.4	1.3	1.4	5.3	6.2	5.6	6.0	6.2	5.8	5.2	4.0	2.4	2.3	1.9	1.6	2.2	1.9	2.0	1.8	1.6	1.7	1.7	1.5
1.8	1.7	1.9	1.9	1.9	1.8	1.7	1.6	1.5	1.5	2.6	2.2	2.1	1.8	1.8	1.7	1.7	1.8	1.9	2.9	2.5	3.8	2.6	1.4	1.5	1.8	1.7	1.9	1.8	2.0	1.7	1.7	1.7	1.9	1.8	1.7
1.9	1.9	1.8	1.6	1.5	1.2	1.0	.9	1.1	1.5	3.6	2.4	2.5	2.5	2.2	1.2	1.2	1.2	1.5	3.0	4.5	4.2	1.6	1.6	1.8	1.8	1.9	1.8	2.1	2.1	2.2	2.2	2.5	2.0	1.8	1.7
2.3	1.9	1.6	1.4	1.2	1.2	1.0	.8	.9	.9	7.0	8.7	3.4	3.6	2.0	1.1	1.1	1.2	1.4	5.5	5.3	4.6	3.5	1.2	1.4	1.5	1.4	1.5	1.5	1.4	4.9	4.6	3.0	1.8	1.7	2.1
1.9	1.8	2.0	2.1	2.1	1.8	1.7	1.5	1.2	1.0	2.9	10.2	4.2	3.7	1.6	1.5	1.2	1.1	.9	5.5	6.6	4.7	2.9	1.3	1.3	1.3	1.2	1.2	1.4	6.1	4.9	5.0	5.1	4.8	1.6	1.7
1.4	1.6	1.6	1.7	1.9	2.1	2.0	2.1	1.9	1.7	4.9	4.6	3.7	1.9	1.7	1.6	1.7	1.9	1.7	2.5	6.6	1.9	1.6	1.8	1.9	2.0	2.0	1.9	1.9	4.1	3.8	4.9	4.7	3.9	1.7	3.8
1.6	1.3	1.2	1.4	1.6	1.7	1.6	1.5	1.5	1.5	6.2	4.6	1.8	2.2	2.5	2.5	2.8	2.9	2.6	3.7	4.2	3.7	3.7	3.8	3.8	3.4	2.3	2.1	2.4	2.0	1.4	1.6	2.5	1.8	3.5	3.8
2.0	2.4	2.9	2.9	2.2	1.6	1.2	1.1	1.1	1.1	3.1	2.5	2.1	1.8	1.5	1.7	1.5	1.1	2.0	1.8	1.0	1.1	.9	.9	1.0	1.0	1.4	1.4	1.2	1.3	1.9	1.7	2.2	2.3	2.0	1.3
5.6	4.9	3.5	2.9	3.0	3.0	2.8	2.5	2.4	3.0	4.2	9.4	7.3	5.9	6.3	5.8	5.2	5.5	4.8	4.7	5.2	6.7	12.3	15.4	11.3	7.2	11.6	14.9	15.2	13.7	14.9	16.6	13.1	9.8	6.7	6.2
5.6	5.2	5.9	7.9	10.4	11.4	11.2	10.5	12.1	12.6	12.1	9.7	7.4	8.2	7.8	10.7	12.7	11.7	12.1	12.1	13.7	10.4	7.2	5.8	9.2	9.4	7.4	6.0	6.2	6.9	6.5	6.1	8.7	9.6	11.7	5.8
10.1	10.5	10.7	10.4	8.7	8.2	8.4	9.0	7.9	7.0	8.4	9.7	10.2	9.1	9.1	8.2	8.0	8.4	8.1	7.9	6.7	6.3	5.8	5.8	4.7	4.3	4.6	4.3	4.3	4.9	6.0	7.1	8.8	9.1	12.6	11.6

Figure 28. ATOVS MEAN O-B brightness temperature differences (deg C). JUNE 2006
Channel: HIRS15 (700 hPa)
NOAA15, using all observations



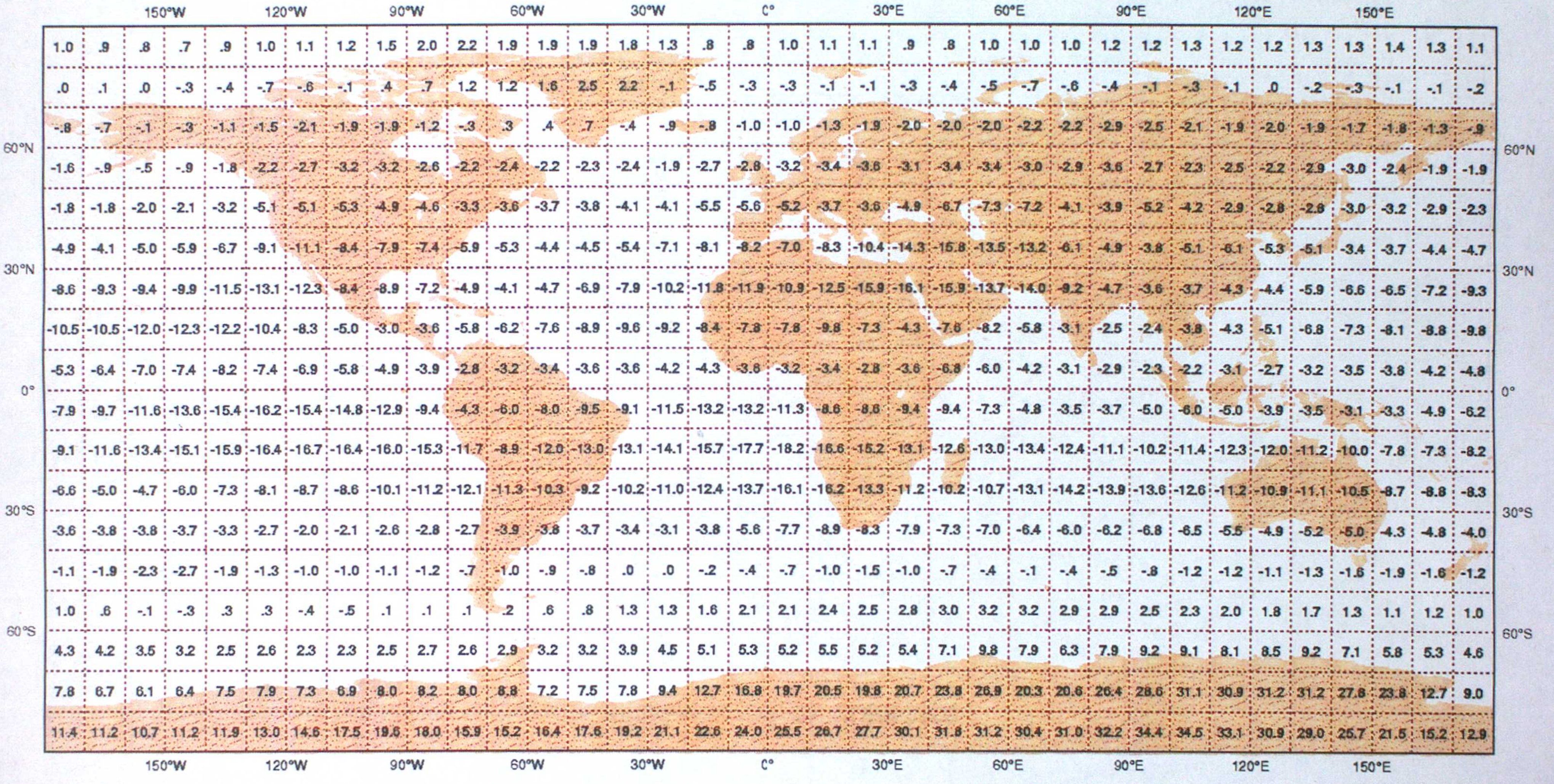
1.7	1.7	1.8	1.8	1.9	2.0	2.1	2.2	2.3	2.4	2.7	2.6	2.6	2.8	2.8	2.4	2.2	2.2	2.1	2.1	2.0	2.0	2.0	2.0	1.9	1.9	2.0	1.9	1.9	1.9	1.9	1.8	1.8	1.8	1.7	1.7
1.1	1.0	.8	.8	.8	.7	.5	1.0	1.4	1.6	2.0	2.1	2.5	3.3	3.3	1.9	1.3	1.1	.6	.4	.4	.4	.5	.5	.5	.5	.4	.4	.3	.4	.5	.7	.5	.8	1.0	1.0
.4	.3	-.7	-1.0	-2.0	-2.6	-2.5	-1.8	-.4	.8	1.1	1.4	1.2	2.1	1.1	.3	-.2	-.6	-1.0	-1.5	-2.0	-2.3	-2.5	-2.7	-3.0	-3.1	-3.1	-2.8	-2.6	-2.4	-2.4	-2.7	-2.5	-2.1	-1.3	-.8
-.1	.1	.1	-.5	-.8	-2.4	-3.9	-3.9	-3.0	-1.4	-1.5	-1.8	-1.4	-1.5	-1.8	-2.2	-2.5	-2.7	-3.0	-3.3	-3.4	-4.0	-5.1	-5.5	-5.4	-5.5	-5.1	-4.4	-4.1	-3.8	-3.8	-3.4	-1.9	-1.6	-1.5	-.5
-1.9	-1.3	-1.2	-2.1	-2.7	-4.1	-6.4	-7.2	-6.3	-4.6	-5.0	-5.1	-5.1	-4.9	-4.8	-4.5	-4.5	-5.1	-5.1	-4.6	-4.6	-5.4	-7.2	-8.2	-7.7	-6.4	-6.5	-6.8	-6.5	-5.5	-5.0	-4.0	-3.1	-2.6	-2.7	-2.5
-6.4	-5.8	-5.9	-6.0	-6.2	-7.4	-10.1	-10.2	-9.0	-7.9	-7.5	-7.3	-7.0	-6.1	-5.9	-6.2	-6.1	-7.6	-8.2	-7.3	-7.7	-9.6	-12.0	-11.3	-10.7	-8.2	-8.2	-8.3	-9.5	-9.5	-7.8	-7.7	-7.7	-7.3	-6.8	-6.7
-8.5	-8.2	-8.6	-8.3	-8.5	-9.0	-10.0	-10.5	-9.8	-9.6	-9.1	-8.8	-8.2	-7.5	-7.5	-8.6	-9.3	-11.5	-11.3	-10.8	-11.6	-12.8	-13.4	-13.6	-13.0	-13.3	-12.0	-11.5	-11.4	-11.2	-10.9	-10.7	-10.2	-9.8	-9.1	-9.3
-9.8	-9.9	-10.1	-9.9	-10.0	-10.1	-10.3	-10.5	-10.0	-10.3	-10.4	-10.0	-9.8	-9.5	-9.4	-10.0	-10.8	-11.7	-11.6	-12.2	-11.9	-11.2	-12.1	-11.9	-11.4	-11.2	-11.6	-11.3	-11.3	-11.3	-11.0	-11.0	-10.7	-10.6	-10.2	-10.3
-10.5	-10.6	-10.6	-10.4	-10.4	-10.3	-10.2	-10.2	-10.0	-10.2	-9.6	-9.6	-9.7	-9.7	-9.7	-9.9	-9.8	-9.8	-9.9	-10.3	-10.2	-9.6	-9.9	-10.3	-10.6	-10.4	-10.8	-10.6	-10.6	-10.5	-10.5	-10.8	-10.7	-10.8	-10.7	-10.8
-10.8	-10.9	-10.8	-10.8	-10.7	-10.6	-10.3	-10.3	-10.0	-9.8	-9.3	-9.9	-9.9	-9.7	-9.7	-10.0	-10.0	-9.9	-9.9	-9.9	-10.0	-9.1	-9.7	-10.0	-10.4	-10.0	-10.5	-10.5	-10.5	-10.3	-10.3	-10.3	-10.4	-10.7	-10.9	-10.9
-10.4	-10.5	-10.4	-10.4	-10.0	-9.8	-9.4	-9.3	-9.0	-9.1	-8.1	-8.2	-9.1	-7.9	-8.6	-8.8	-9.2	-9.1	-9.5	-8.8	-7.8	-7.9	-8.9	-9.5	-9.8	-9.4	-9.7	-9.6	-9.8	-9.8	-9.5	-9.3	-9.6	-9.8	-10.2	-10.2
-6.0	-6.4	-6.7	-7.1	-7.1	-7.1	-6.8	-6.5	-6.3	-6.0	-6.2	-4.6	-6.2	-5.4	-5.5	-5.1	-5.8	-6.1	-7.0	-6.3	-4.6	-5.9	-6.4	-6.9	-6.9	-6.7	-6.7	-6.1	-6.1	-5.3	-3.8	-3.3	-4.0	-4.8	-5.5	-5.4
.4	-.1	-.2	-.9	-1.4	-1.5	-1.8	-1.6	-1.8	-1.8	-1.3	-1.1	-1.3	-1.5	-1.0	-.8	-1.4	-1.8	-2.6	-2.7	-2.3	-2.8	-2.3	-2.3	-2.1	-2.2	-1.9	-1.8	-1.2	-.7	.3	.9	1.8	.7	.4	.9
3.6	3.2	3.2	2.6	2.6	2.8	2.6	2.7	2.3	2.3	3.2	3.6	3.8	3.8	4.1	3.8	3.5	2.9	2.7	2.6	2.8	3.6	4.0	4.2	4.1	3.8	3.5	3.0	3.0	2.8	2.9	3.1	3.4	3.6	3.6	4.2
6.7	6.4	6.3	6.1	5.6	5.5	5.5	5.3	5.2	5.4	6.0	6.7	7.6	8.2	8.9	8.9	9.1	9.1	9.6	9.7	9.6	10.1	10.3	10.5	10.3	9.8	9.4	8.8	8.2	7.7	7.2	7.2	7.3	7.0	7.0	7.0
12.6	12.2	11.4	10.7	9.9	9.4	9.1	9.0	9.2	9.4	9.9	11.0	11.9	12.4	13.0	13.5	14.2	14.7	14.8	14.8	14.8	15.0	16.0	17.8	17.1	15.9	16.1	16.6	16.2	15.5	15.5	15.8	14.8	13.7	13.4	13.0
17.3	16.2	15.3	15.0	15.6	15.6	15.2	14.9	15.5	15.8	15.4	16.2	15.7	16.0	16.5	17.8	19.6	22.0	23.7	24.4	24.2	24.6	26.0	27.4	24.5	24.7	27.4	28.1	29.1	29.1	29.3	29.1	27.2	25.2	20.5	18.6
19.9	19.7	19.5	19.5	20.0	20.5	21.3	22.8	24.1	23.0	21.9	21.5	21.9	22.7	23.5	24.3	25.1	25.9	26.8	27.7	28.5	29.8	30.6	30.7	30.6	31.1	31.8	32.2	32.0	31.3	30.1	29.0	27.1	25.2	22.4	21.0

Figure 29. ATOVS SD O-B brightness temperature differences (deg C). JUNE 2006
Channel: HIRS15 (700 hPa)
NOAA15, using all observations



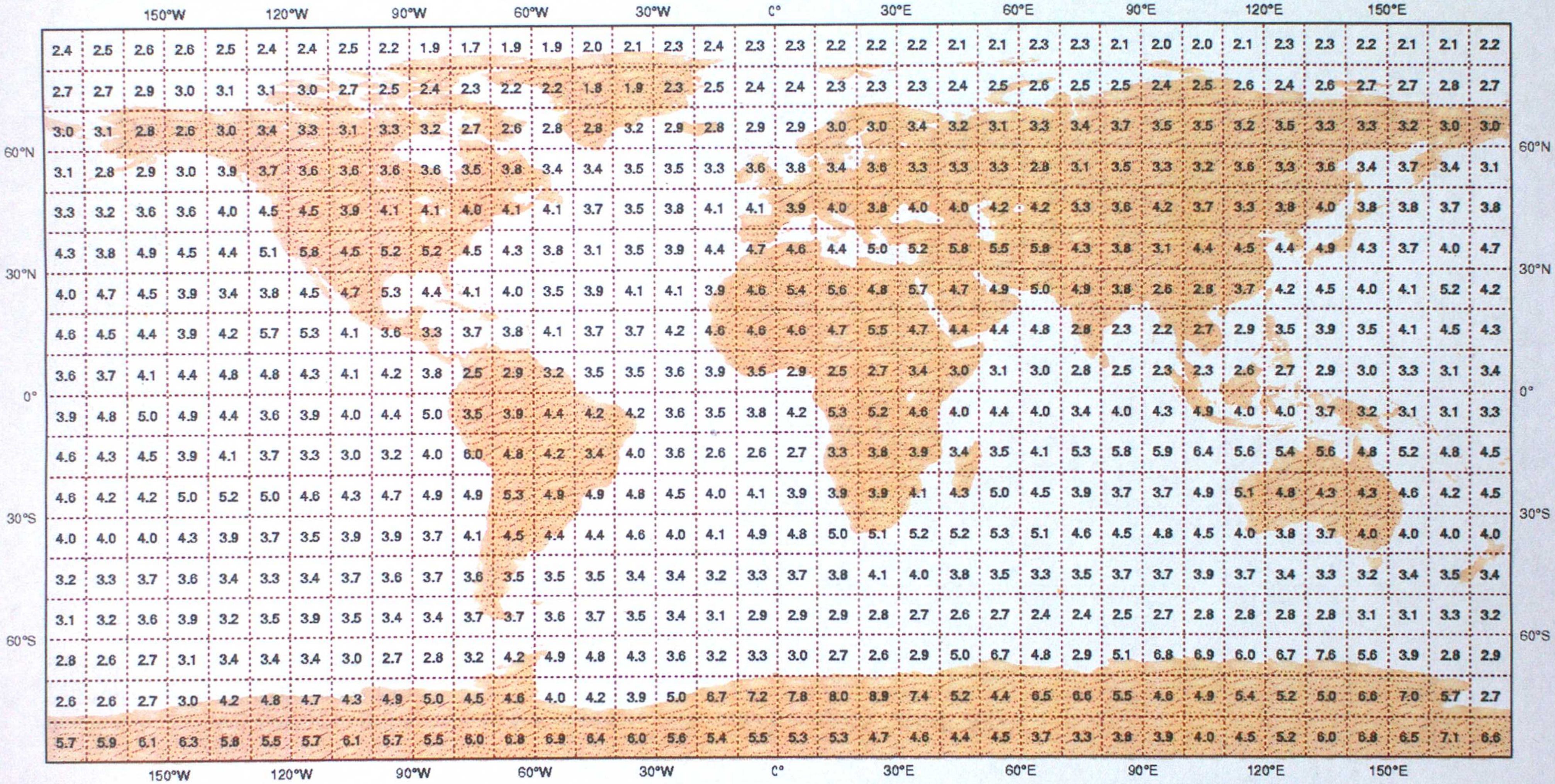
2.4	2.4	2.4	2.3	2.4	2.3	2.2	2.1	2.0	2.0	1.9	1.9	1.8	1.8	1.8	1.9	1.9	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.1	2.1	2.1	2.1	2.2	2.2	2.2	2.2	2.2	2.3	2.3	2.3
2.7	2.7	2.8	2.8	2.8	2.9	2.9	2.7	2.4	2.3	2.0	1.9	2.0	1.9	1.9	2.0	1.9	1.9	2.1	2.2	2.3	2.3	2.3	2.2	2.2	2.3	2.4	2.5	2.6	2.6	2.6	2.5	2.6	2.5	2.5	2.6
3.0	3.1	3.5	3.6	3.9	4.0	3.8	3.7	3.3	2.7	2.6	2.5	2.5	2.5	2.7	2.6	2.6	2.7	2.9	3.3	3.4	3.7	3.9	3.7	3.6	3.6	3.7	3.7	3.9	4.0	3.7	3.5	3.6	3.8	3.6	3.3
2.9	2.7	2.9	3.0	3.3	3.8	3.7	3.8	3.8	3.5	3.6	4.0	3.6	3.5	3.3	3.1	2.9	3.1	3.5	3.8	3.8	3.9	3.8	3.5	3.7	3.9	4.1	4.1	4.3	4.2	3.5	3.4	3.1	3.2	3.1	3.1
3.4	3.1	3.3	3.4	3.4	3.8	4.2	4.2	3.9	3.8	3.8	3.5	3.3	3.4	3.5	3.4	3.2	3.5	4.1	4.8	4.2	3.9	3.7	3.9	4.2	4.0	4.2	4.4	4.5	4.1	3.7	3.3	3.5	3.4	3.5	3.8
3.3	3.3	3.6	3.6	3.5	3.7	4.1	4.2	3.8	3.8	3.6	3.5	3.3	3.3	3.4	3.4	3.6	4.1	4.5	4.4	4.0	4.1	4.3	4.3	4.7	5.1	4.7	3.8	3.8	4.0	3.7	3.6	3.6	3.6	3.7	3.6
3.5	3.5	3.4	3.4	3.4	3.3	3.5	3.8	3.5	3.5	3.4	3.5	3.4	3.5	3.6	3.4	3.8	4.2	4.3	4.1	4.0	3.9	4.0	4.0	3.8	3.7	3.8	3.4	3.2	3.4	3.4	3.4	3.3	3.4	3.5	3.5
3.5	3.4	3.4	3.4	3.4	3.3	3.4	3.4	3.4	3.4	3.5	3.4	3.4	3.4	3.5	3.4	3.8	3.9	4.0	3.9	4.0	3.8	3.7	3.7	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.5	3.4	3.4	3.5	3.4
3.5	3.4	3.3	3.4	3.4	3.4	3.4	3.3	3.4	3.4	3.4	3.4	3.3	3.4	3.4	3.4	3.4	3.4	3.5	3.5	3.6	3.4	3.4	3.4	3.4	3.5	3.4	3.4	3.4	3.4	3.4	3.4	3.5	3.4	3.5	3.3
3.5	3.5	3.4	3.4	3.4	3.3	3.4	3.3	3.3	3.3	3.4	3.4	3.4	3.4	3.4	3.3	3.3	3.4	3.3	3.4	3.5	3.3	3.4	3.4	3.4	3.5	3.4	3.4	3.4	3.4	3.3	3.4	3.4	3.5	3.4	3.4
3.5	3.5	3.5	3.4	3.5	3.4	3.4	3.4	3.4	3.3	3.6	3.9	3.5	3.3	3.4	3.4	3.3	3.4	3.3	3.5	3.4	3.3	3.4	3.4	3.3	3.4	3.4	3.4	3.4	3.5	3.5	3.4	3.3	3.4	3.4	3.4
4.1	4.2	3.9	3.7	3.7	3.7	3.8	3.8	3.6	3.5	3.7	4.4	3.9	3.5	3.7	3.7	3.5	3.6	3.6	3.6	3.5	3.7	3.6	3.5	3.5	3.7	3.9	3.6	3.7	3.8	3.7	3.7	3.9	4.0	3.8	4.1
3.9	4.0	3.8	3.7	3.9	3.9	4.1	4.1	3.9	3.8	3.8	3.9	4.1	4.3	4.3	3.8	3.5	3.7	3.8	3.7	3.7	4.3	4.2	3.7	3.9	4.0	3.8	3.6	3.8	3.6	3.2	3.3	3.2	3.6	3.4	4.0
3.6	3.5	3.5	3.6	3.7	3.5	3.5	3.5	3.4	3.6	3.7	3.6	3.8	4.1	4.1	3.9	3.9	4.0	4.1	4.1	4.4	4.4	4.3	4.2	4.1	4.1	4.0	3.8	3.8	3.6	3.4	3.4	3.4	3.5	3.5	3.6
3.7	3.7	3.8	3.6	3.5	3.6	3.5	3.4	3.3	3.5	3.6	4.0	4.1	4.0	4.1	3.9	4.1	4.3	3.9	4.1	4.1	3.7	3.7	3.8	3.8	3.8	3.8	3.6	4.1	4.1	3.6	3.7	4.4	4.2	3.6	3.6
4.2	4.0	4.0	3.9	4.0	4.0	3.8	3.7	3.6	4.0	4.3	4.7	5.3	5.2	5.3	4.8	4.5	4.4	4.1	4.0	3.9	3.8	4.4	5.0	4.4	4.0	4.9	5.6	5.7	5.5	5.7	6.0	5.4	4.8	4.5	4.5
3.7	3.6	3.7	3.9	4.4	4.6	4.5	4.3	4.5	4.6	4.8	4.8	5.1	5.2	5.2	5.0	4.8	4.5	4.4	4.5	4.9	4.3	3.2	2.6	3.8	3.9	3.2	2.8	2.8	3.0	2.9	2.7	3.2	3.5	3.9	3.7
4.9	5.2	5.5	5.5	5.1	4.8	4.6	4.6	4.0	4.1	4.7	5.1	5.2	4.8	4.4	4.1	3.7	3.3	2.9	2.7	2.4	2.2	2.0	2.1	1.9	1.8	2.0	1.9	2.2	2.6	3.1	3.6	4.1	4.2	4.9	5.1

Figure 30. ATOVS MEAN O-B brightness temperature differences (deg C). JUNE 2006
Channel: HIRS11 (500 - 700 hPa)
NOAA15, using all observations



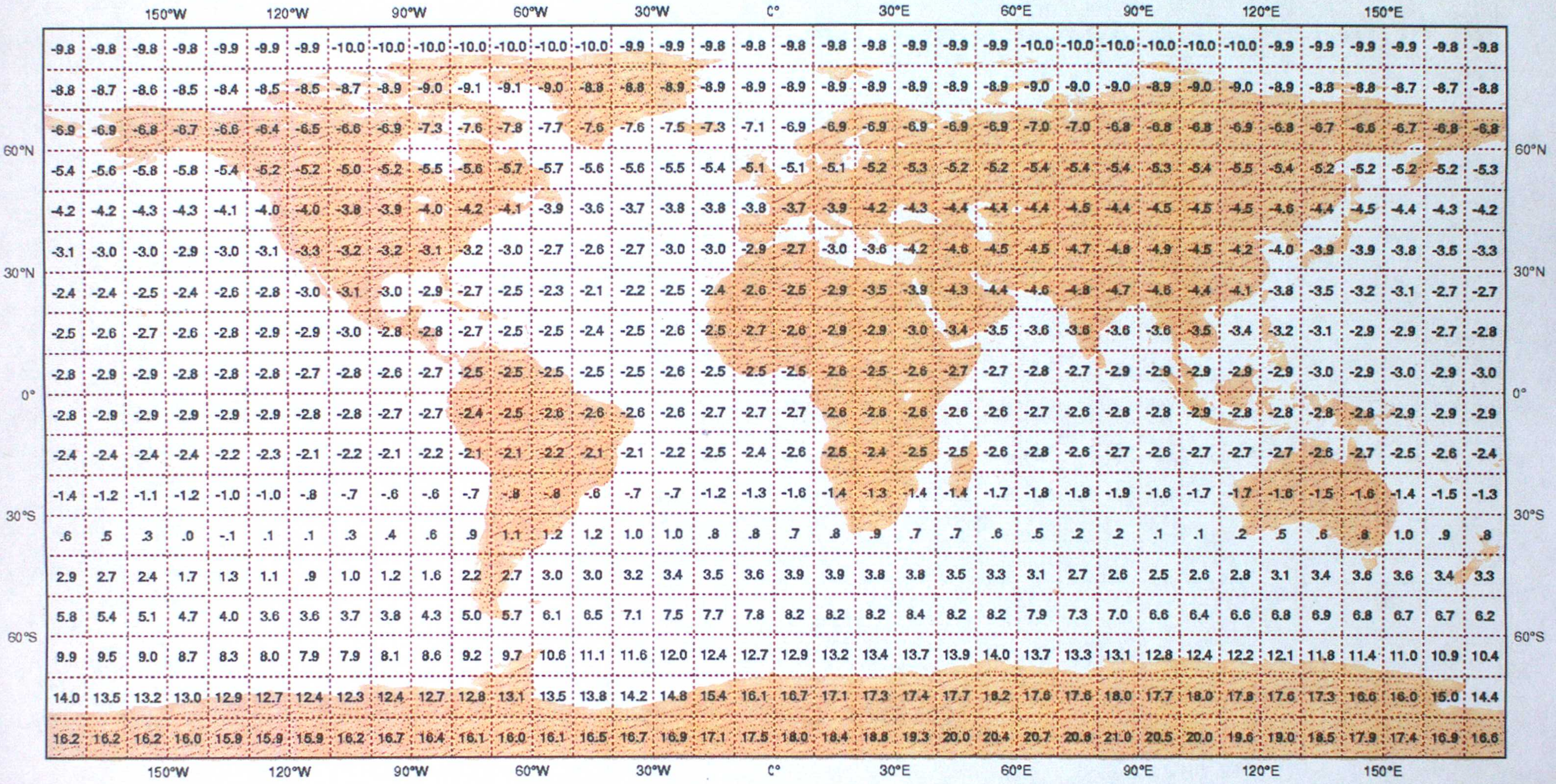
1.0	.9	.8	.7	.9	1.0	1.1	1.2	1.5	2.0	2.2	1.9	1.9	1.9	1.8	1.3	.8	.8	1.0	1.1	1.1	.9	.8	1.0	1.0	1.0	1.2	1.2	1.3	1.2	1.2	1.3	1.3	1.4	1.3	1.1
.0	.1	.0	-.3	-.4	-.7	-.6	-.1	.4	.7	1.2	1.2	1.6	2.5	2.2	-.1	-.5	-.3	-.3	-.1	-.1	-.3	-.4	-.5	-.7	-.6	-.4	-.1	-.3	-.1	.0	-.2	-.3	-.1	-.1	-.2
-.8	-.7	-.1	-.3	-1.1	-1.5	-2.1	-1.9	-1.9	-1.2	-.3	.3	.4	.7	-.4	-.9	-.8	-1.0	-1.0	-1.3	-1.9	-2.0	-2.0	-2.0	-2.2	-2.2	-2.9	-2.5	-2.1	-1.9	-2.0	-1.9	-1.7	-1.8	-1.3	-.9
-1.6	-.9	-.5	-.9	-1.8	-2.2	-2.7	-3.2	-3.2	-2.6	-2.2	-2.4	-2.2	-2.3	-2.4	-1.9	-2.7	-2.8	-3.2	-3.4	-3.6	-3.1	-3.4	-3.4	-3.0	-2.9	-3.6	-2.7	-2.3	-2.5	-2.2	-2.9	-3.0	-2.4	-1.9	-1.9
-1.8	-1.8	-2.0	-2.1	-3.2	-5.1	-5.1	-5.3	-4.9	-4.6	-3.3	-3.6	-3.7	-3.8	-4.1	-4.1	-5.5	-5.6	-5.2	-3.7	-3.6	-4.9	-6.7	-7.3	-7.2	-4.1	-3.9	-5.2	-4.2	-2.9	-2.8	-2.8	-3.0	-3.2	-2.9	-2.3
-4.9	-4.1	-5.0	-5.9	-6.7	-9.1	-11.1	-8.4	-7.9	-7.4	-5.9	-5.3	-4.4	-4.5	-5.4	-7.1	-8.1	-8.2	-7.0	-8.3	-10.4	-14.3	-15.8	-13.5	-13.2	-6.1	-4.9	-3.8	-5.1	-6.1	-5.3	-5.1	-3.4	-3.7	-4.4	-4.7
-8.6	-9.3	-9.4	-9.9	-11.5	-13.1	-12.3	-8.4	-8.9	-7.2	-4.9	-4.1	-4.7	-6.9	-7.9	-10.2	-11.8	-11.9	-10.9	-12.5	-15.9	-16.1	-15.9	-13.7	-14.0	-9.2	-4.7	-3.6	-3.7	-4.3	-4.4	-5.9	-6.6	-6.5	-7.2	-9.3
-10.5	-10.5	-12.0	-12.3	-12.2	-10.4	-8.3	-5.0	-3.0	-3.6	-5.8	-6.2	-7.6	-8.9	-9.6	-9.2	-8.4	-7.8	-7.8	-9.8	-7.3	-4.3	-7.6	-8.2	-5.8	-3.1	-2.5	-2.4	-3.8	-4.3	-5.1	-6.8	-7.3	-8.1	-8.8	-9.8
-5.3	-6.4	-7.0	-7.4	-8.2	-7.4	-6.9	-5.8	-4.9	-3.9	-2.8	-3.2	-3.4	-3.6	-3.6	-4.2	-4.3	-3.6	-3.2	-3.4	-2.8	-3.6	-6.8	-6.0	-4.2	-3.1	-2.9	-2.3	-2.2	-3.1	-2.7	-3.2	-3.5	-3.8	-4.2	-4.8
-7.9	-9.7	-11.6	-13.6	-15.4	-16.2	-15.4	-14.8	-12.9	-9.4	-4.3	-6.0	-8.0	-9.5	-9.1	-11.5	-13.2	-13.2	-11.3	-8.6	-8.6	-9.4	-9.4	-7.3	-4.8	-3.5	-3.7	-5.0	-6.0	-5.0	-3.9	-3.5	-3.1	-3.3	-4.9	-6.2
-9.1	-11.6	-13.4	-15.1	-15.9	-16.4	-16.7	-16.4	-16.0	-15.3	-11.7	-8.9	-12.0	-13.0	-13.1	-14.1	-15.7	-17.7	-18.2	-16.6	-15.2	-13.1	-12.6	-13.0	-13.4	-12.4	-11.1	-10.2	-11.4	-12.3	-12.0	-11.2	-10.0	-7.8	-7.3	-8.2
-6.6	-5.0	-4.7	-6.0	-7.3	-8.1	-8.7	-8.6	-10.1	-11.2	-12.1	-11.3	-10.3	-9.2	-10.2	-11.0	-12.4	-13.7	-16.1	-16.2	-13.3	-11.2	-10.2	-10.7	-13.1	-14.2	-13.9	-13.6	-12.6	-11.2	-10.9	-11.1	-10.5	-8.7	-8.8	-8.3
-3.6	-3.8	-3.8	-3.7	-3.3	-2.7	-2.0	-2.1	-2.6	-2.8	-2.7	-3.9	-3.8	-3.7	-3.4	-3.1	-3.8	-5.6	-7.7	-8.9	-8.3	-7.9	-7.3	-7.0	-6.4	-6.0	-6.2	-6.8	-6.5	-5.5	-4.9	-5.2	-5.0	-4.3	-4.8	-4.0
-1.1	-1.9	-2.3	-2.7	-1.9	-1.3	-1.0	-1.0	-1.1	-1.2	-.7	-1.0	-.9	-.8	.0	.0	-.2	-.4	-.7	-1.0	-1.5	-1.0	-.7	-.4	-.1	-.4	-.5	-.8	-1.2	-1.2	-1.1	-1.3	-1.6	-1.9	-1.6	-1.2
1.0	.6	-.1	-.3	.3	.3	-.4	-.5	.1	.1	.1	.2	.6	.8	1.3	1.3	1.6	2.1	2.1	2.4	2.5	2.8	3.0	3.2	3.2	2.9	2.9	2.5	2.3	2.0	1.8	1.7	1.3	1.1	1.2	1.0
4.3	4.2	3.5	3.2	2.5	2.6	2.3	2.3	2.5	2.7	2.6	2.9	3.2	3.2	3.9	4.5	5.1	5.3	5.2	5.5	5.2	5.4	7.1	9.8	7.9	6.3	7.9	9.2	9.1	8.1	8.5	9.2	7.1	5.8	5.3	4.6
7.8	6.7	6.1	6.4	7.5	7.9	7.3	6.9	8.0	8.2	8.0	8.8	7.2	7.5	7.8	9.4	12.7	16.8	19.7	20.5	19.8	20.7	23.8	26.9	20.3	20.6	26.4	28.6	31.1	30.9	31.2	31.2	27.8	23.8	12.7	9.0
11.4	11.2	10.7	11.2	11.9	13.0	14.6	17.5	19.6	18.0	15.9	15.2	16.4	17.6	19.2	21.1	22.6	24.0	25.5	26.7	27.7	30.1	31.8	31.2	30.4	31.0	32.2	34.4	34.5	33.1	30.9	29.0	25.7	21.5	15.2	12.9

Figure 31. ATOVS SD O-B brightness temperature differences (deg C). JUNE 2006
Channel: HIRS11 (500 - 700 hPa)
NOAA15, using all observations



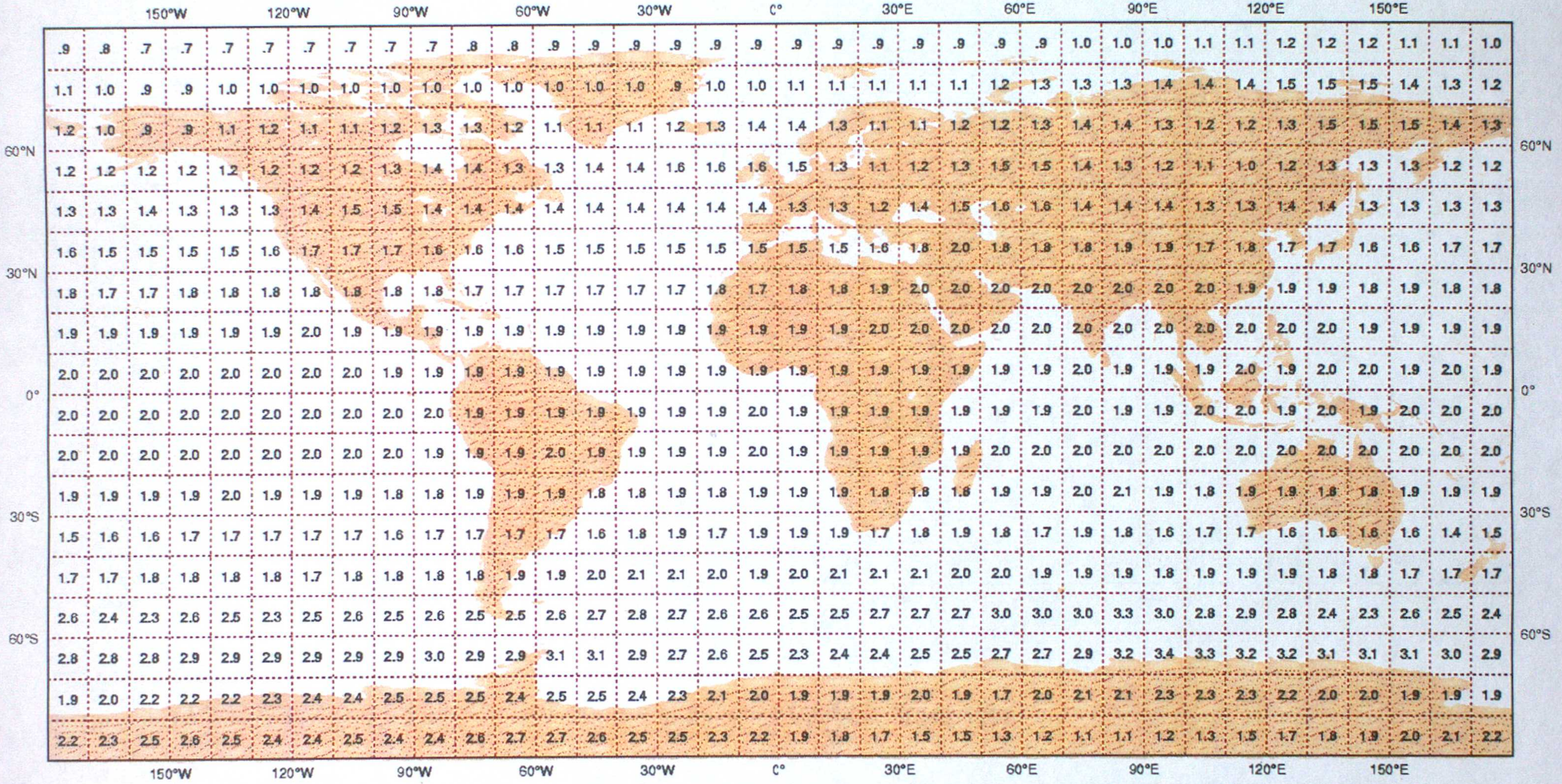
2.4	2.5	2.6	2.6	2.5	2.4	2.4	2.5	2.2	1.9	1.7	1.9	1.9	2.0	2.1	2.3	2.4	2.3	2.3	2.2	2.2	2.2	2.1	2.1	2.3	2.3	2.1	2.0	2.0	2.1	2.3	2.3	2.2	2.1	2.1	2.2
2.7	2.7	2.9	3.0	3.1	3.1	3.0	2.7	2.5	2.4	2.3	2.2	2.2	1.8	1.9	2.3	2.5	2.4	2.4	2.3	2.3	2.3	2.4	2.5	2.6	2.5	2.5	2.4	2.5	2.6	2.4	2.6	2.7	2.7	2.8	2.7
3.0	3.1	2.8	2.6	3.0	3.4	3.3	3.1	3.3	3.2	2.7	2.6	2.8	2.8	3.2	2.9	2.8	2.9	2.9	3.0	3.0	3.4	3.2	3.1	3.3	3.4	3.7	3.5	3.5	3.2	3.5	3.3	3.3	3.2	3.0	3.0
3.1	2.8	2.9	3.0	3.9	3.7	3.6	3.6	3.6	3.6	3.5	3.8	3.4	3.4	3.5	3.5	3.3	3.6	3.8	3.4	3.6	3.3	3.3	3.3	2.8	3.1	3.5	3.3	3.2	3.6	3.3	3.6	3.4	3.7	3.4	3.1
3.3	3.2	3.6	3.6	4.0	4.5	4.5	3.9	4.1	4.1	4.0	4.1	4.1	3.7	3.5	3.8	4.1	4.1	3.9	4.0	3.8	4.0	4.0	4.2	4.2	3.3	3.6	4.2	3.7	3.3	3.8	4.0	3.8	3.8	3.7	3.8
4.3	3.8	4.9	4.5	4.4	5.1	5.8	4.5	5.2	5.2	4.5	4.3	3.8	3.1	3.5	3.9	4.4	4.7	4.6	4.4	5.0	5.2	5.8	5.5	5.8	4.3	3.8	3.1	4.4	4.5	4.4	4.9	4.3	3.7	4.0	4.7
4.0	4.7	4.5	3.9	3.4	3.8	4.5	4.7	5.3	4.4	4.1	4.0	3.5	3.9	4.1	4.1	3.9	4.6	5.4	5.6	4.8	5.7	4.7	4.9	5.0	4.9	3.8	2.6	2.8	3.7	4.2	4.5	4.0	4.1	5.2	4.2
4.6	4.5	4.4	3.9	4.2	5.7	5.3	4.1	3.6	3.3	3.7	3.8	4.1	3.7	3.7	4.2	4.6	4.6	4.6	4.7	5.5	4.7	4.4	4.4	4.8	2.8	2.3	2.2	2.7	2.9	3.5	3.9	3.5	4.1	4.5	4.3
3.6	3.7	4.1	4.4	4.8	4.8	4.3	4.1	4.2	3.8	2.5	2.9	3.2	3.5	3.5	3.6	3.9	3.5	2.9	2.5	2.7	3.4	3.0	3.1	3.0	2.8	2.5	2.3	2.3	2.6	2.7	2.9	3.0	3.3	3.1	3.4
3.9	4.8	5.0	4.9	4.4	3.6	3.9	4.0	4.4	5.0	3.5	3.9	4.4	4.2	4.2	3.6	3.5	3.8	4.2	5.3	5.2	4.6	4.0	4.4	4.0	3.4	4.0	4.3	4.9	4.0	4.0	3.7	3.2	3.1	3.1	3.3
4.6	4.3	4.5	3.9	4.1	3.7	3.3	3.0	3.2	4.0	6.0	4.8	4.2	3.4	4.0	3.6	2.6	2.6	2.7	3.3	3.8	3.9	3.4	3.5	4.1	5.3	5.8	5.9	6.4	5.6	5.4	5.6	4.8	5.2	4.8	4.5
4.6	4.2	4.2	5.0	5.2	5.0	4.6	4.3	4.7	4.9	4.9	5.3	4.9	4.9	4.8	4.5	4.0	4.1	3.9	3.9	3.9	4.1	4.3	5.0	4.5	3.9	3.7	3.7	4.9	5.1	4.8	4.3	4.3	4.6	4.2	4.5
4.0	4.0	4.0	4.3	3.9	3.7	3.5	3.9	3.9	3.7	4.1	4.5	4.4	4.4	4.6	4.0	4.1	4.9	4.8	5.0	5.1	5.2	5.2	5.3	5.1	4.6	4.5	4.8	4.5	4.0	3.8	3.7	4.0	4.0	4.0	4.0
3.2	3.3	3.7	3.6	3.4	3.3	3.4	3.7	3.6	3.7	3.6	3.5	3.5	3.5	3.4	3.4	3.2	3.3	3.7	3.8	4.1	4.0	3.8	3.5	3.3	3.5	3.7	3.7	3.9	3.7	3.4	3.3	3.2	3.4	3.5	3.4
3.1	3.2	3.6	3.9	3.2	3.5	3.9	3.5	3.4	3.4	3.7	3.7	3.6	3.7	3.5	3.4	3.1	2.9	2.9	2.9	2.8	2.7	2.6	2.7	2.4	2.4	2.5	2.7	2.8	2.8	2.8	2.8	3.1	3.1	3.3	3.2
2.8	2.6	2.7	3.1	3.4	3.4	3.4	3.0	2.7	2.8	3.2	4.2	4.9	4.8	4.3	3.6	3.2	3.3	3.0	2.7	2.6	2.9	5.0	6.7	4.8	2.9	5.1	6.8	6.9	6.0	6.7	7.6	5.6	3.9	2.8	2.9
2.6	2.6	2.7	3.0	4.2	4.8	4.7	4.3	4.9	5.0	4.5	4.6	4.0	4.2	3.9	5.0	6.7	7.2	7.8	8.0	8.9	7.4	5.2	4.4	6.5	6.6	5.5	4.6	4.9	5.4	5.2	5.0	6.6	7.0	5.7	2.7
5.7	5.9	6.1	6.3	5.8	5.5	5.7	6.1	5.7	5.5	6.0	6.8	6.9	6.4	6.0	5.6	5.4	5.5	5.3	5.3	4.7	4.6	4.4	4.5	3.7	3.3	3.8	3.9	4.0	4.5	5.2	6.0	6.8	6.5	7.1	6.6

Figure 32. ATOVS MEAN O-B brightness temperature differences (deg C). JUNE 2006
Channel: HIRS4 (400 hPa)
NOAA15, using all observations



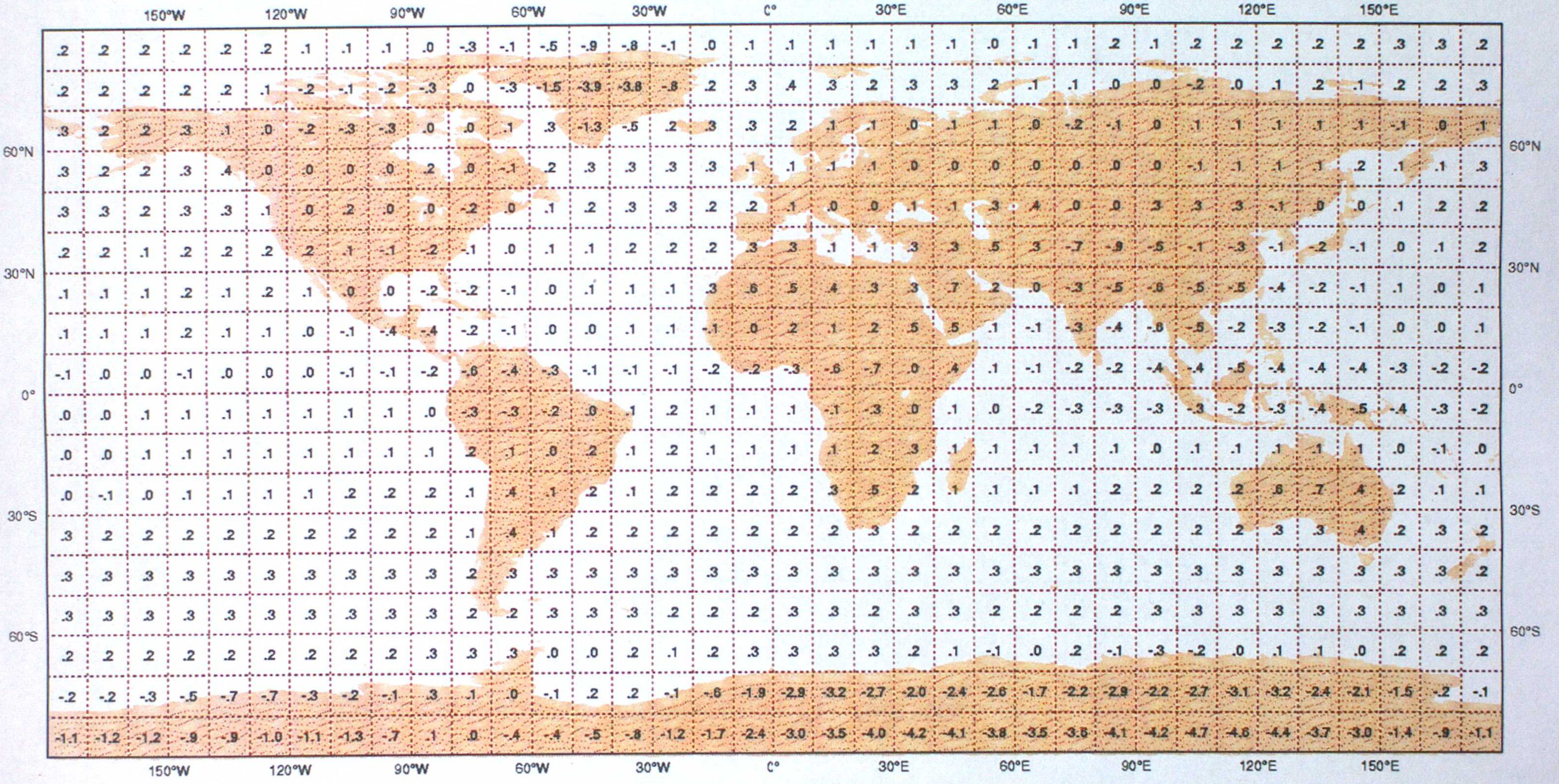
-9.8	-9.8	-9.8	-9.8	-9.9	-9.9	-9.9	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-9.9	-9.9	-9.8	-9.8	-9.8	-9.8	-9.8	-9.9	-9.9	-9.9	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-9.9	-9.9	-9.9	-9.9	-9.8	-9.8
-8.8	-8.7	-8.6	-8.5	-8.4	-8.5	-8.5	-8.7	-8.9	-9.0	-9.1	-9.1	-9.0	-8.8	-8.8	-8.9	-8.9	-8.9	-8.9	-8.9	-8.9	-8.9	-8.9	-8.9	-9.0	-9.0	-9.0	-8.9	-9.0	-9.0	-8.9	-8.8	-8.8	-8.7	-8.7	-8.8
-6.9	-6.9	-6.8	-6.7	-6.6	-6.4	-6.5	-6.6	-6.9	-7.3	-7.6	-7.8	-7.7	-7.6	-7.6	-7.5	-7.3	-7.1	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-7.0	-7.0	-6.8	-6.8	-6.8	-6.9	-6.8	-6.7	-6.6	-6.7	-6.8	-6.8
-5.4	-5.6	-5.8	-5.8	-5.4	-5.2	-5.2	-5.0	-5.2	-5.5	-5.6	-5.7	-5.7	-5.6	-5.6	-5.5	-5.4	-5.1	-5.1	-5.1	-5.2	-5.3	-5.2	-5.2	-5.4	-5.4	-5.4	-5.3	-5.4	-5.5	-5.4	-5.2	-5.2	-5.2	-5.2	-5.3
-4.2	-4.2	-4.3	-4.3	-4.1	-4.0	-4.0	-3.8	-3.9	-4.0	-4.2	-4.1	-3.9	-3.6	-3.7	-3.8	-3.8	-3.8	-3.7	-3.9	-4.2	-4.3	-4.4	-4.4	-4.4	-4.5	-4.4	-4.5	-4.5	-4.5	-4.6	-4.4	-4.5	-4.4	-4.3	-4.2
-3.1	-3.0	-3.0	-2.9	-3.0	-3.1	-3.3	-3.2	-3.2	-3.1	-3.2	-3.0	-2.7	-2.6	-2.7	-3.0	-3.0	-2.9	-2.7	-3.0	-3.6	-4.2	-4.6	-4.5	-4.5	-4.7	-4.8	-4.9	-4.5	-4.2	-4.0	-3.9	-3.9	-3.8	-3.5	-3.3
-2.4	-2.4	-2.5	-2.4	-2.6	-2.8	-3.0	-3.1	-3.0	-2.9	-2.7	-2.5	-2.3	-2.1	-2.2	-2.5	-2.4	-2.6	-2.5	-2.9	-3.5	-3.9	-4.3	-4.4	-4.6	-4.8	-4.7	-4.6	-4.4	-4.1	-3.8	-3.5	-3.2	-3.1	-2.7	-2.7
-2.5	-2.6	-2.7	-2.6	-2.8	-2.9	-2.9	-3.0	-2.8	-2.8	-2.7	-2.5	-2.5	-2.4	-2.5	-2.6	-2.5	-2.7	-2.6	-2.9	-2.9	-3.0	-3.4	-3.5	-3.6	-3.6	-3.6	-3.6	-3.5	-3.4	-3.2	-3.1	-2.9	-2.9	-2.7	-2.8
-2.8	-2.9	-2.9	-2.8	-2.8	-2.8	-2.7	-2.8	-2.6	-2.7	-2.5	-2.5	-2.5	-2.5	-2.5	-2.6	-2.5	-2.5	-2.5	-2.6	-2.5	-2.6	-2.7	-2.7	-2.8	-2.7	-2.9	-2.9	-2.9	-2.9	-2.9	-3.0	-2.9	-3.0	-2.9	-3.0
-2.8	-2.9	-2.9	-2.9	-2.9	-2.9	-2.8	-2.8	-2.7	-2.7	-2.4	-2.5	-2.6	-2.6	-2.6	-2.6	-2.7	-2.7	-2.7	-2.6	-2.6	-2.6	-2.6	-2.6	-2.7	-2.6	-2.8	-2.8	-2.9	-2.8	-2.8	-2.8	-2.8	-2.9	-2.9	-2.9
-2.4	-2.4	-2.4	-2.4	-2.2	-2.3	-2.1	-2.2	-2.1	-2.2	-2.1	-2.1	-2.2	-2.1	-2.1	-2.2	-2.5	-2.4	-2.6	-2.5	-2.4	-2.5	-2.5	-2.6	-2.8	-2.6	-2.7	-2.6	-2.7	-2.7	-2.7	-2.6	-2.7	-2.5	-2.6	-2.4
-1.4	-1.2	-1.1	-1.2	-1.0	-1.0	-.8	-.7	-.6	-.6	-.7	-.8	-.8	-.6	-.7	-.7	-1.2	-1.3	-1.6	-1.4	-1.3	-1.4	-1.4	-1.7	-1.8	-1.8	-1.9	-1.6	-1.7	-1.7	-1.6	-1.5	-1.6	-1.4	-1.5	-1.3
.6	.5	.3	.0	-.1	.1	.1	.3	.4	.6	.9	1.1	1.2	1.2	1.0	1.0	.8	.8	.7	.8	.9	.7	.7	.6	.5	.2	.2	.1	.1	.2	.5	.6	.8	1.0	.9	.8
2.9	2.7	2.4	1.7	1.3	1.1	.9	1.0	1.2	1.6	2.2	2.7	3.0	3.0	3.2	3.4	3.5	3.6	3.9	3.9	3.8	3.8	3.5	3.3	3.1	2.7	2.6	2.5	2.6	2.8	3.1	3.4	3.6	3.6	3.4	3.3
5.8	5.4	5.1	4.7	4.0	3.6	3.6	3.7	3.8	4.3	5.0	5.7	6.1	6.5	7.1	7.5	7.7	7.8	8.2	8.2	8.2	8.4	8.2	8.2	7.9	7.3	7.0	6.6	6.4	6.6	6.8	6.9	6.8	6.7	6.7	6.2
9.9	9.5	9.0	8.7	8.3	8.0	7.9	7.9	8.1	8.6	9.2	9.7	10.6	11.1	11.6	12.0	12.4	12.7	12.9	13.2	13.4	13.7	13.9	14.0	13.7	13.3	13.1	12.8	12.4	12.2	12.1	11.8	11.4	11.0	10.9	10.4
14.0	13.5	13.2	13.0	12.9	12.7	12.4	12.3	12.4	12.7	12.8	13.1	13.5	13.8	14.2	14.8	15.4	16.1	16.7	17.1	17.3	17.4	17.7	18.2	17.6	17.6	18.0	17.7	18.0	17.8	17.6	17.3	16.6	16.0	15.0	14.4
16.2	16.2	16.2	16.0	15.9	15.9	15.9	16.2	16.7	16.4	16.1	16.0	16.1	16.5	16.7	16.9	17.1	17.5	18.0	18.4	18.8	19.3	20.0	20.4	20.7	20.8	21.0	20.5	20.0	19.6	19.0	18.5	17.9	17.4	16.9	16.6

Figure 33. ATOVS SD O-B brightness temperature differences (deg C). JUNE 2006
Channel: HIRS4 (400 hPa)
NOAA15, using all observations



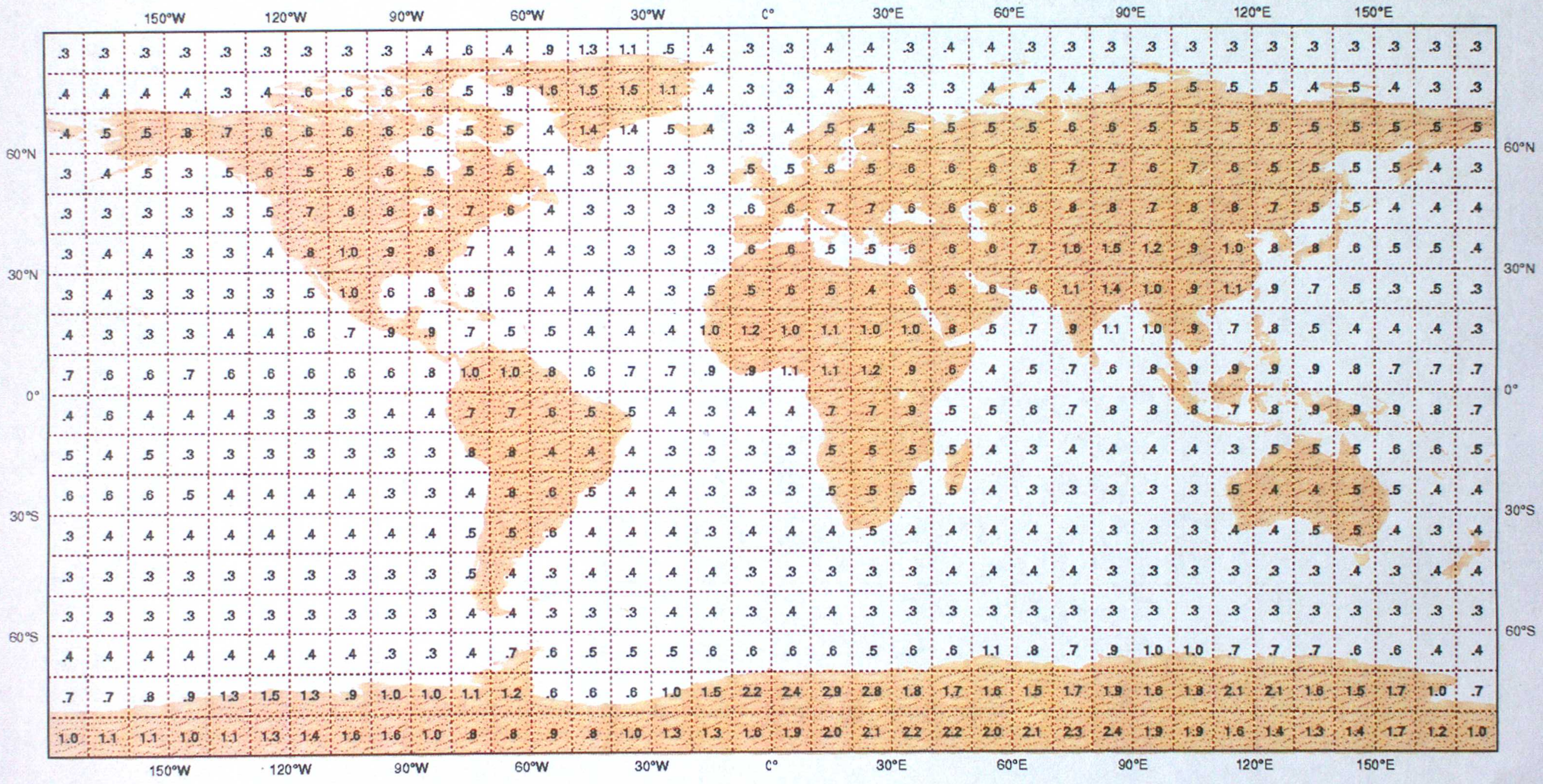
.9	.8	.7	.7	.7	.7	.7	.7	.7	.7	.8	.8	.9	.9	.9	.9	.9	.9	.9	.9	.9	.9	.9	.9	.9	1.0	1.0	1.0	1.1	1.1	1.2	1.2	1.2	1.1	1.1	1.0
1.1	1.0	.9	.9	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	.9	1.0	1.0	1.1	1.1	1.1	1.1	1.1	1.2	1.3	1.3	1.3	1.4	1.4	1.4	1.5	1.5	1.5	1.4	1.3	1.2
1.2	1.0	.9	.9	1.1	1.2	1.1	1.1	1.2	1.3	1.3	1.2	1.1	1.1	1.1	1.2	1.3	1.4	1.4	1.3	1.1	1.1	1.2	1.2	1.3	1.4	1.4	1.3	1.2	1.2	1.3	1.5	1.5	1.5	1.4	1.3
1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.3	1.4	1.4	1.3	1.3	1.4	1.4	1.6	1.6	1.6	1.5	1.3	1.1	1.2	1.3	1.5	1.5	1.4	1.3	1.2	1.1	1.0	1.2	1.3	1.3	1.3	1.2	1.2
1.3	1.3	1.4	1.3	1.3	1.3	1.4	1.5	1.5	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.3	1.3	1.2	1.4	1.5	1.6	1.6	1.4	1.4	1.4	1.3	1.3	1.4	1.4	1.3	1.3	1.3	1.3
1.6	1.5	1.5	1.5	1.5	1.6	1.7	1.7	1.7	1.6	1.6	1.6	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.6	1.8	2.0	1.8	1.8	1.8	1.9	1.9	1.7	1.8	1.7	1.7	1.6	1.6	1.7	1.7
1.8	1.7	1.7	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.7	1.7	1.7	1.7	1.7	1.7	1.8	1.7	1.8	1.8	1.9	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	1.9	1.9	1.9	1.8	1.9	1.8	1.8
1.9	1.9	1.9	1.9	1.9	1.9	2.0	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	1.9	1.9	1.9	1.9
2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	2.0	1.9	1.9	1.9	2.0	1.9	2.0	2.0	1.9	2.0	1.9
2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	1.9	1.9	1.9	1.9	1.9	1.9	1.9	2.0	1.9	1.9	1.9	1.9	1.9	1.9	1.9	2.0	1.9	1.9	2.0	2.0	1.9	2.0	1.9	2.0	2.0	2.0
2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	1.9	1.9	1.9	2.0	1.9	1.9	1.9	1.9	2.0	1.9	1.9	1.9	1.9	1.9	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
1.9	1.9	1.9	1.9	2.0	1.9	1.9	1.9	1.8	1.8	1.9	1.9	1.9	1.8	1.8	1.9	1.8	1.9	1.9	1.9	1.8	1.8	1.6	1.9	1.9	2.0	2.1	1.9	1.8	1.9	1.9	1.8	1.8	1.9	1.9	1.9
1.5	1.6	1.6	1.7	1.7	1.7	1.7	1.7	1.6	1.7	1.7	1.7	1.7	1.6	1.8	1.9	1.7	1.9	1.9	1.9	1.7	1.8	1.9	1.8	1.7	1.9	1.8	1.6	1.7	1.7	1.6	1.6	1.6	1.6	1.4	1.5
1.7	1.7	1.8	1.8	1.8	1.8	1.7	1.8	1.8	1.8	1.8	1.9	1.9	2.0	2.1	2.1	2.0	1.9	2.0	2.1	2.1	2.1	2.0	2.0	1.9	1.9	1.9	1.8	1.9	1.9	1.9	1.8	1.8	1.7	1.7	1.7
2.6	2.4	2.3	2.6	2.5	2.3	2.5	2.6	2.5	2.6	2.5	2.5	2.6	2.7	2.8	2.7	2.6	2.6	2.5	2.5	2.7	2.7	2.7	3.0	3.0	3.0	3.3	3.0	2.8	2.9	2.8	2.4	2.3	2.6	2.5	2.4
2.8	2.8	2.8	2.9	2.9	2.9	2.9	2.9	2.9	3.0	2.9	2.9	3.1	3.1	2.9	2.7	2.6	2.5	2.3	2.4	2.4	2.5	2.5	2.7	2.7	2.9	3.2	3.4	3.3	3.2	3.2	3.1	3.1	3.1	3.0	2.9
1.9	2.0	2.2	2.2	2.2	2.3	2.4	2.4	2.5	2.5	2.5	2.4	2.5	2.5	2.4	2.3	2.1	2.0	1.9	1.9	1.9	2.0	1.9	1.7	2.0	2.1	2.1	2.3	2.3	2.3	2.2	2.0	2.0	1.9	1.9	1.9
2.2	2.3	2.5	2.6	2.5	2.4	2.4	2.5	2.4	2.4	2.6	2.7	2.7	2.6	2.5	2.5	2.3	2.2	1.9	1.8	1.7	1.5	1.5	1.3	1.2	1.1	1.1	1.2	1.3	1.5	1.7	1.8	1.9	2.0	2.1	2.2

Figure 34. ATOVS MEAN O-B brightness temperature differences (deg C). JUNE 2006
Channel: AMSUA-5 (700 hPa)
NOAA15, using all observations



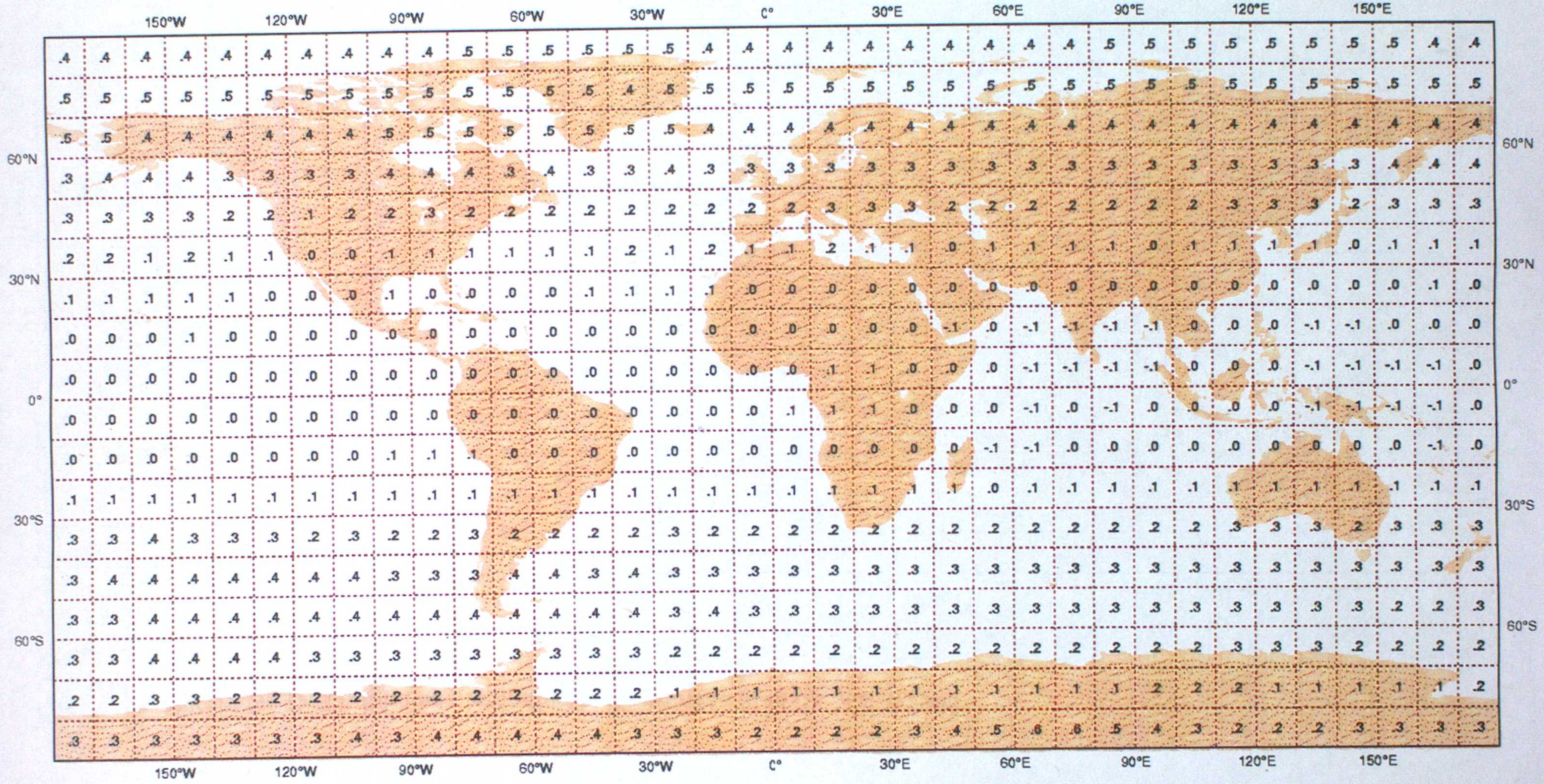
.2	.2	.2	.2	.2	.2	.1	.1	.1	.0	-.3	-.1	-.5	-.9	-.8	-.1	.0	.1	.1	.1	.1	.1	.1	.0	.1	.1	.2	.1	.2	.2	.2	.2	.2	.3	.3	.2
.2	.2	.2	.2	.2	.1	-.2	-.1	-.2	-.3	.0	-.3	-1.5	-3.9	-3.8	-.8	.2	.3	.4	.3	.2	.3	.3	.2	.1	.1	.0	.0	-.2	.0	.1	.2	.1	.2	.2	.3
.3	.2	.2	.3	.1	.0	-.2	-.3	-.3	.0	.0	.1	.3	-1.3	-.5	.2	.3	.3	.2	.1	.1	.0	.1	.1	.0	-.2	-.1	.0	.1	.1	.1	.1	.1	-.1	.0	.1
.3	.2	.2	.3	.4	.0	.0	.0	.0	.2	.0	-.1	.2	.3	.3	.3	.3	.1	.1	.1	.1	.0	.0	.0	.0	.0	.0	.0	-.1	.1	.1	.1	.2	.1	.1	.3
.3	.3	.2	.3	.3	.1	.0	.2	.0	.0	-.2	.0	.1	.2	.3	.3	.2	.2	.1	.0	.0	.1	.1	.3	.4	.0	.0	.3	.3	.3	-.1	.0	.0	.1	.2	.2
.2	.2	.1	.2	.2	.2	.2	.1	-.1	-.2	-.1	.0	.1	.1	.2	.2	.2	.3	.3	.1	.1	.3	.3	.5	.3	-.7	-.9	-.5	-.1	-.3	-.1	-.2	-.1	.0	.1	.2
.1	.1	.1	.2	.1	.2	.1	.0	.0	-.2	-.2	-.1	.0	.1	.1	.1	.3	.6	.5	.4	.3	.3	.7	.2	.0	-.3	-.5	-.6	-.5	-.5	-.4	-.2	-.1	.1	.0	.1
.1	.1	.1	.2	.1	.1	.0	-.1	-.4	-.4	-.2	-.1	.0	.0	.1	.1	-.1	.0	.2	.1	.2	.5	.5	.1	-.1	-.3	-.4	-.6	-.5	-.2	-.3	-.2	-.1	.0	.0	.1
-.1	.0	.0	-.1	.0	.0	.0	-.1	-.1	-.2	-.6	-.4	-.3	-.1	-.1	-.1	-.2	-.2	-.3	-.6	-.7	.0	.4	.1	-.1	-.2	-.2	-.4	-.4	-.5	-.4	-.4	-.4	-.3	-.2	-.2
.0	.0	.1	.1	.1	.1	.1	.1	.1	.0	-.3	-.3	-.2	.0	.1	.2	.1	.1	.1	-.1	-.3	.0	.1	.0	-.2	-.3	-.3	-.3	-.3	-.2	-.3	-.4	-.5	-.4	-.3	-.2
.0	.0	.1	.1	.1	.1	.1	.1	.1	.1	.2	.1	.0	.2	.1	.2	.1	.1	.1	.1	.2	.3	.1	.1	.1	.1	.1	.0	.1	.1	.1	.1	.1	.0	-.1	.0
.0	-.1	.0	.1	.1	.1	.1	.2	.2	.2	.1	.4	.1	.2	.1	.2	.2	.2	.2	.3	.5	.2	.1	.1	.1	.1	.2	.2	.2	.2	.6	.7	.4	.2	.1	.1
.3	.2	.2	.2	.2	.2	.2	.2	.2	.2	.1	.4	.1	.2	.2	.2	.2	.2	.2	.3	.2	.2	.2	.2	.2	.2	.2	.2	.2	.2	.3	.3	.4	.2	.3	.2
.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.2	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.2
.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.2	.2	.3	.3	.3	.2	.2	.2	.3	.3	.2	.3	.3	.2	.2	.2	.2	.3	.3	.3	.3	.3	.3	.3	.3	.3
.2	.2	.2	.2	.2	.2	.2	.2	.2	.3	.3	.3	.0	.0	.2	.1	.2	.3	.3	.3	.3	.2	.1	-.1	.0	.2	-.1	-.3	-.2	.0	.1	.1	.0	.2	.2	.2
-.2	-.2	-.3	-.5	-.7	-.7	-.3	-.2	-.1	.3	.1	.0	-.1	.2	.2	-.1	-.6	-1.9	-2.9	-3.2	-2.7	-2.0	-2.4	-2.6	-1.7	-2.2	-2.9	-2.2	-2.7	-3.1	-3.2	-2.4	-2.1	-1.5	-.2	-.1
-1.1	-1.2	-1.2	-.9	-.9	-1.0	-1.1	-1.3	-.7	.1	.0	-.4	-.4	-.5	-.8	-1.2	-1.7	-2.4	-3.0	-3.5	-4.0	-4.2	-4.1	-3.8	-3.5	-3.6	-4.1	-4.2	-4.7	-4.6	-4.4	-3.7	-3.0	-1.4	-.9	-1.1

Figure 35. ATOVS SD O-B brightness temperature differences (deg C). JUNE 2006
Channel: AMSUA-5 (700 hPa)
NOAA15, using all observations



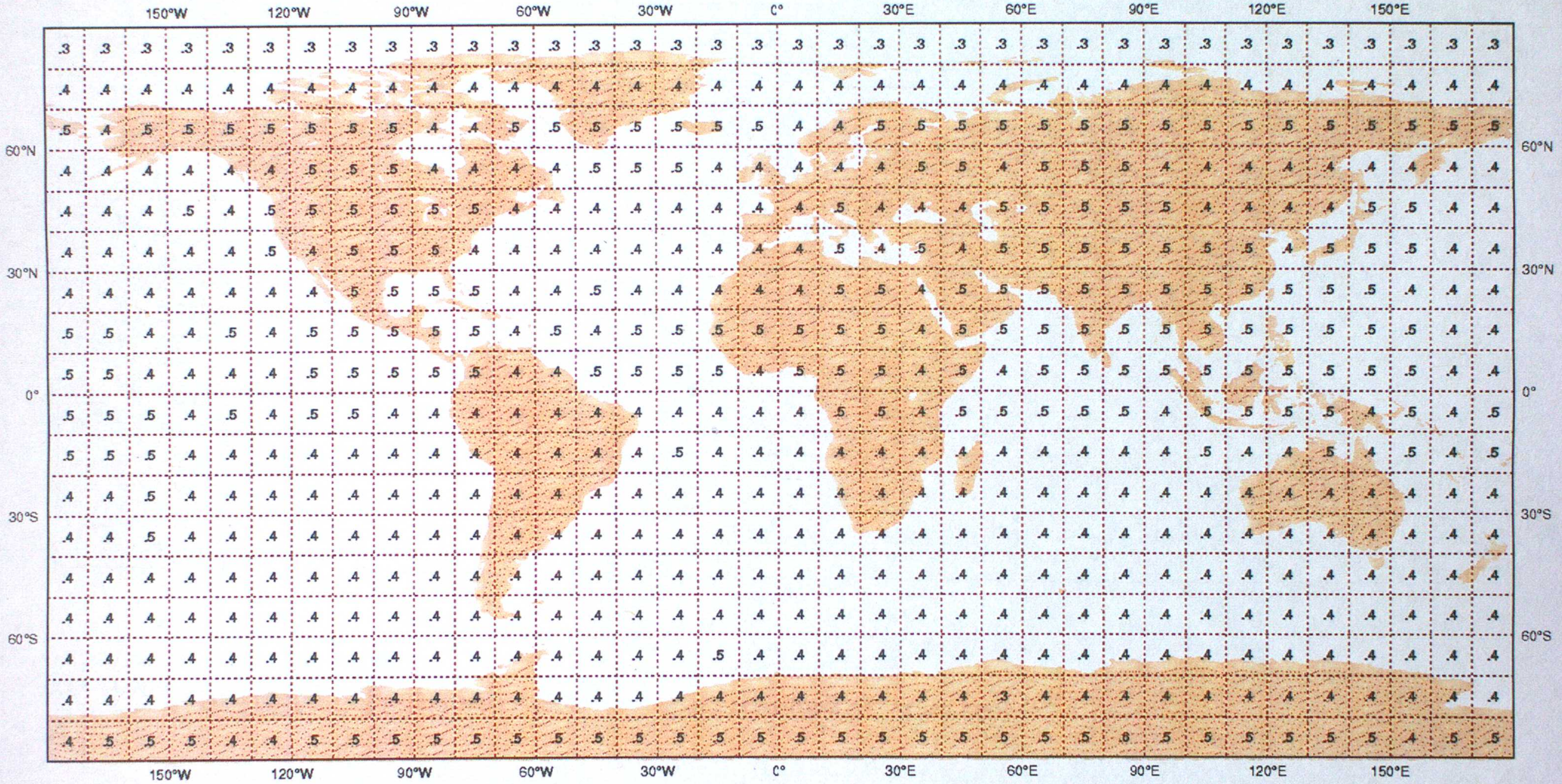
.3	.3	.3	.3	.3	.3	.3	.3	.3	.4	.6	.4	.9	1.3	1.1	.5	.4	.3	.3	.4	.4	.3	.4	.4	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3
.4	.4	.4	.4	.3	.4	.6	.6	.6	.6	.5	.9	1.6	1.5	1.5	1.1	.4	.3	.3	.4	.4	.3	.3	.4	.4	.4	.4	.5	.5	.5	.5	.4	.5	.4	.3	.3
.4	.5	.5	.8	.7	.6	.6	.6	.6	.6	.5	.5	.4	1.4	1.4	.5	.4	.3	.4	.5	.4	.5	.5	.5	.5	.6	.6	.5	.5	.5	.5	.5	.5	.5	.5	.5
.3	.4	.5	.3	.5	.6	.5	.6	.6	.5	.5	.5	.4	.3	.3	.3	.3	.5	.5	.6	.5	.6	.6	.6	.6	.7	.7	.6	.7	.6	.5	.5	.5	.5	.4	.3
.3	.3	.3	.3	.3	.5	.7	.8	.8	.8	.7	.6	.4	.3	.3	.3	.3	.6	.6	.7	.7	.6	.6	.6	.6	.8	.8	.7	.8	.8	.7	.5	.5	.4	.4	.4
.3	.4	.4	.3	.3	.4	.8	1.0	.9	.8	.7	.4	.4	.3	.3	.3	.3	.6	.6	.5	.5	.6	.6	.6	.7	1.6	1.5	1.2	.9	1.0	.8	.8	.6	.5	.5	.4
.3	.4	.3	.3	.3	.3	.5	1.0	.6	.8	.8	.6	.4	.4	.4	.3	.5	.5	.6	.5	.4	.6	.6	.6	.6	1.1	1.4	1.0	.9	1.1	.9	.7	.5	.3	.5	.3
.4	.3	.3	.3	.4	.4	.6	.7	.9	.9	.7	.5	.5	.4	.4	.4	1.0	1.2	1.0	1.1	1.0	1.0	.6	.5	.7	.9	1.1	1.0	.9	.7	.8	.5	.4	.4	.4	.3
.7	.6	.6	.7	.6	.6	.6	.6	.6	.8	1.0	1.0	.8	.6	.7	.7	.9	.9	1.1	1.1	1.2	.9	.6	.4	.5	.7	.6	.8	.9	.9	.9	.9	.8	.7	.7	.7
.4	.6	.4	.4	.4	.3	.3	.3	.4	.4	.7	.7	.6	.5	.5	.4	.3	.4	.4	.7	.7	.9	.5	.5	.6	.7	.8	.8	.8	.7	.8	.9	.9	.9	.8	.7
.5	.4	.5	.3	.3	.3	.3	.3	.3	.3	.8	.8	.4	.4	.4	.3	.3	.3	.3	.5	.5	.5	.5	.4	.3	.4	.4	.4	.4	.3	.5	.5	.5	.6	.6	.5
.6	.6	.6	.5	.4	.4	.4	.4	.3	.3	.4	.8	.6	.5	.4	.4	.3	.3	.3	.5	.5	.5	.5	.4	.3	.3	.3	.3	.3	.5	.4	.4	.5	.5	.4	.4
.3	.4	.4	.4	.4	.4	.4	.4	.4	.4	.5	.5	.6	.4	.4	.4	.3	.4	.4	.4	.5	.4	.4	.4	.4	.4	.3	.3	.3	.4	.4	.5	.5	.4	.3	.4
.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.5	.4	.3	.4	.4	.4	.4	.3	.3	.3	.3	.3	.4	.4	.4	.4	.3	.3	.3	.3	.3	.3	.4	.3	.4	.4
.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.4	.4	.3	.3	.3	.4	.4	.3	.4	.4	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3
.4	.4	.4	.4	.4	.4	.4	.4	.3	.3	.4	.7	.6	.5	.5	.5	.6	.6	.6	.6	.5	.6	.6	1.1	.8	.7	.9	1.0	1.0	.7	.7	.7	.6	.6	.4	.4
.7	.7	.8	.9	1.3	1.5	1.3	.9	1.0	1.0	1.1	1.2	.6	.6	.6	1.0	1.5	2.2	2.4	2.9	2.8	1.8	1.7	1.6	1.5	1.7	1.9	1.6	1.8	2.1	2.1	1.6	1.5	1.7	1.0	.7
1.0	1.1	1.1	1.0	1.1	1.3	1.4	1.6	1.6	1.0	.8	.8	.9	.8	1.0	1.3	1.3	1.6	1.9	2.0	2.1	2.2	2.2	2.0	2.1	2.3	2.4	1.9	1.9	1.6	1.4	1.3	1.4	1.7	1.2	1.0

Figure 36. ATOVS MEAN O-B brightness temperature differences (deg C). JUNE 2006
Channel: AMSUA-7 (300 hPa)
NOAA15, using all observations



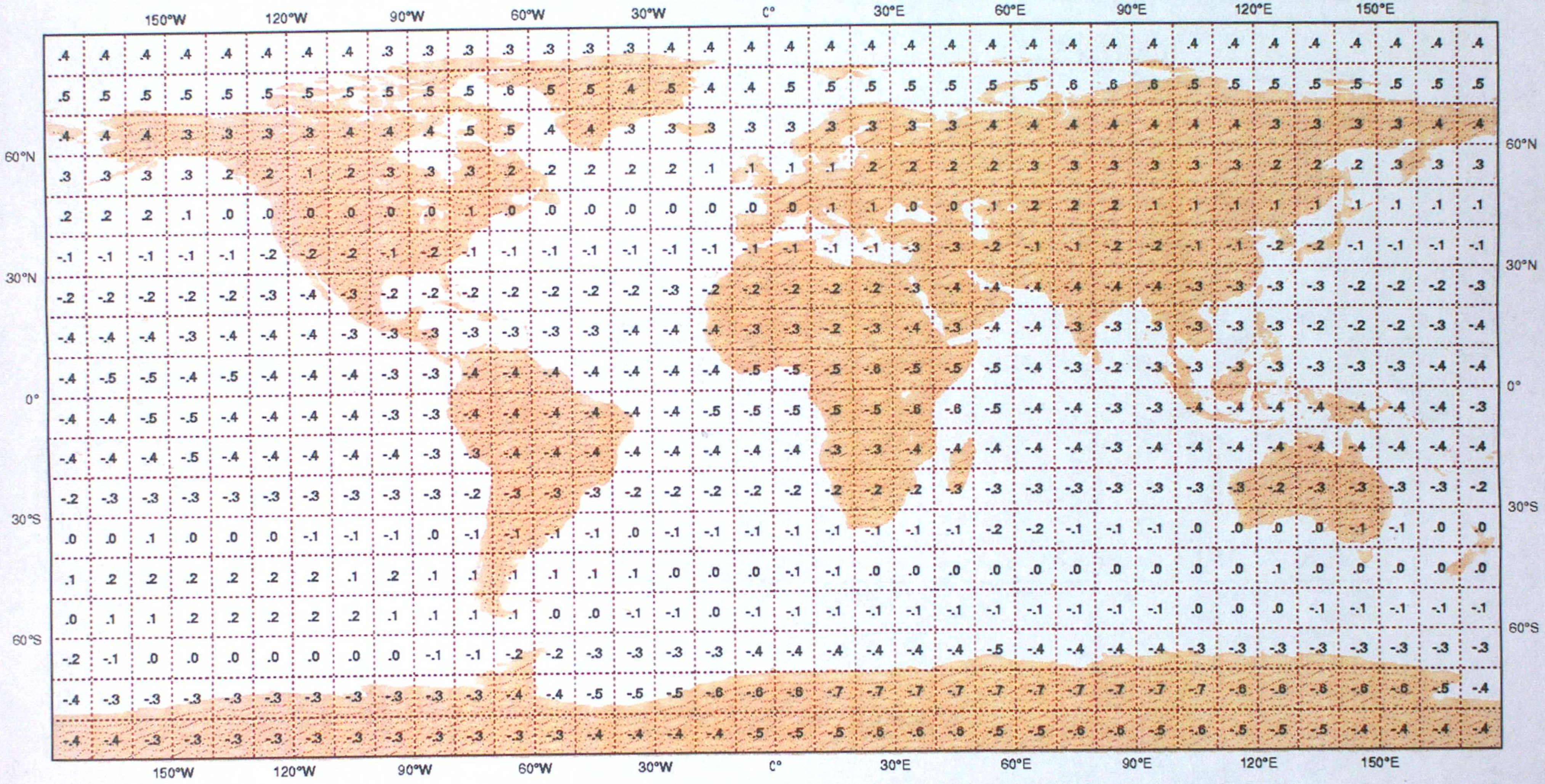
.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.5	.5	.5	.5	.5	.5	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.5	.5	.5	.5	.5	.5	.5	.5	.4	.4
.5	.5	.5	.5	.5	.5	.5	.5	.5	.5	.5	.5	.5	.5	.4	.5	.5	.5	.5	.5	.5	.5	.5	.5	.5	.5	.5	.5	.5	.5	.5	.5	.5	.5	.5	.5
.5	.5	.4	.4	.4	.4	.4	.4	.5	.5	.5	.5	.5	.5	.5	.5	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4
.3	.4	.4	.4	.3	.3	.3	.3	.4	.4	.4	.3	.4	.3	.3	.4	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.4	.4	.4
.3	.3	.3	.3	.2	.2	.1	.2	.2	.3	.2	.2	.2	.2	.2	.2	.2	.2	.2	.3	.3	.3	.2	.2	.2	.2	.2	.2	.2	.3	.3	.3	.2	.3	.3	.3
.2	.2	.1	.2	.1	.1	.0	.0	.1	.1	.1	.1	.1	.1	.2	.1	.2	.1	.1	.2	.1	.1	.0	.1	.1	.1	.1	.0	.1	.1	.1	.1	.0	.1	.1	.1
.1	.1	.1	.1	.1	.0	.0	.0	.1	.0	.0	.0	.0	.1	.1	.1	.1	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.1	.0
.0	.0	.0	.1	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	-.1	.0	-.1	-.1	-.1	-.1	.0	.0	.0	-.1	-.1	.0	.0	.0
.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.1	.1	.0	.0	.0	-.1	-.1	-.1	-.1	.0	.0	.0	-.1	-.1	-.1	-.1	.0
.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.1	.1	.1	.0	.0	.0	-.1	.0	-.1	.0	.0	.0	.0	-.1	-.1	-.1	-.1	.0
.0	.0	.0	.0	.0	.0	.0	.0	.1	.1	.1	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	-.1	-.1	.0	.0	.0	.0	.0	.0	.0	.0	.0	-.1	.0
.1	.1	.1	.1	.1	.1	.1	.1	.1	.1	.1	.1	.1	.1	.1	.1	.1	.1	.1	.1	.1	.1	.1	.0	.1	.1	.1	.1	.1	.1	.1	.1	.1	.1	.1	.1
.3	.3	.4	.3	.3	.3	.2	.3	.2	.2	.3	.2	.2	.2	.2	.3	.2	.2	.2	.2	.2	.2	.2	.2	.2	.2	.2	.2	.2	.3	.3	.3	.2	.3	.3	.3
.3	.4	.4	.4	.4	.4	.4	.4	.3	.3	.3	.4	.4	.3	.4	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3
.3	.3	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.3	.4	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.2	.2	.3
.3	.3	.4	.4	.4	.4	.3	.3	.3	.3	.3	.3	.3	.3	.3	.2	.2	.2	.2	.2	.2	.2	.2	.2	.2	.2	.2	.2	.2	.3	.3	.3	.2	.2	.2	.2
.2	.2	.3	.3	.2	.2	.2	.2	.2	.2	.2	.2	.2	.2	.2	.1	.1	.1	.1	.1	.1	.1	.1	.1	.1	.1	.1	.2	.2	.2	.1	.1	.1	.1	.1	.2
.3	.3	.3	.3	.3	.3	.3	.4	.3	.4	.4	.4	.4	.4	.3	.3	.3	.2	.2	.2	.2	.3	.4	.5	.6	.6	.5	.4	.3	.2	.2	.2	.3	.3	.3	.3

Figure 37. ATOVS SD O-B brightness temperature differences (deg C). JUNE 2006
Channel: AMSUA-7 (300 hPa)
NOAA15, using all observations



.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3
.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4
.5	.4	.5	.5	.5	.5	.5	.5	.5	.4	.4	.5	.5	.5	.5	.5	.5	.5	.4	.4	.5	.5	.5	.5	.5	.5	.5	.5	.5	.5	.5	.5	.5	.5	.5	.5
.4	.4	.4	.4	.4	.4	.5	.5	.5	.4	.4	.4	.4	.5	.5	.5	.4	.4	.4	.4	.4	.5	.5	.4	.5	.5	.5	.4	.4	.4	.4	.4	.4	.4	.4	.4
.4	.4	.4	.5	.4	.5	.5	.5	.5	.5	.5	.4	.4	.4	.4	.4	.4	.4	.4	.5	.4	.4	.4	.5	.5	.5	.5	.5	.4	.4	.4	.4	.5	.5	.4	.4
.4	.4	.4	.4	.4	.5	.4	.5	.5	.5	.4	.4	.4	.4	.4	.4	.4	.4	.4	.5	.4	.5	.4	.5	.5	.5	.5	.5	.5	.5	.4	.5	.5	.5	.4	.4
.4	.4	.4	.4	.4	.4	.4	.5	.5	.5	.5	.4	.4	.5	.4	.4	.4	.4	.4	.5	.5	.4	.5	.5	.5	.5	.5	.5	.5	.5	.5	.5	.5	.4	.4	.4
.5	.5	.4	.4	.5	.4	.5	.5	.5	.5	.5	.4	.5	.4	.5	.5	.5	.5	.5	.5	.5	.4	.5	.5	.5	.5	.5	.5	.5	.5	.5	.5	.5	.5	.4	.4
.5	.5	.4	.4	.4	.4	.5	.5	.5	.5	.5	.4	.4	.5	.5	.5	.5	.4	.5	.5	.5	.4	.5	.4	.5	.5	.5	.5	.5	.5	.5	.5	.5	.5	.4	.4
.5	.5	.5	.4	.5	.4	.5	.5	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.5	.5	.4	.5	.5	.5	.5	.5	.4	.5	.5	.5	.5	.4	.5	.4	.5
.5	.5	.5	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.5	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.5	.4	.4	.5	.4	.5	.4	.5
.4	.4	.5	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4
.4	.4	.5	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4
.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4
.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4
.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.5	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4
.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.3	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4
.4	.5	.5	.5	.4	.4	.5	.5	.5	.5	.5	.5	.5	.5	.5	.5	.5	.5	.5	.5	.5	.5	.5	.5	.5	.5	.6	.5	.5	.5	.5	.5	.5	.4	.5	.5

Figure 38. ATOVS MEAN O-B brightness temperature differences (deg C). JUNE 2006
Channel: AMSUA-9 (100 hPa)
NOAA15, using all observations



.4	.4	.4	.4	.4	.4	.4	.4	.3	.3	.3	.3	.3	.3	.3	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4
.5	.5	.5	.5	.5	.5	.5	.5	.5	.5	.5	.6	.5	.5	.4	.5	.4	.4	.5	.5	.5	.5	.5	.5	.5	.6	.6	.6	.5	.5	.5	.5	.5	.5	.5	.5
.4	.4	.4	.3	.3	.3	.3	.4	.4	.4	.5	.5	.4	.4	.3	.3	.3	.3	.3	.3	.3	.3	.3	.4	.4	.4	.4	.4	.4	.4	.3	.3	.3	.3	.4	.4
.3	.3	.3	.3	.2	.2	.1	.2	.3	.3	.3	.2	.2	.2	.2	.2	.1	.1	.1	.1	.2	.2	.2	.2	.3	.3	.3	.3	.3	.3	.2	.2	.2	.3	.3	.3
.2	.2	.2	.1	.0	.0	.0	.0	.0	.0	.1	.0	.0	.0	.0	.0	.0	.0	.0	.1	.1	.0	.0	.1	.2	.2	.2	.1	.1	.1	.1	.1	.1	.1	.1	.1
-.1	-.1	-.1	-.1	-.1	-.2	-.2	-.2	-.1	-.2	-.1	-.1	-.1	-.1	-.1	-.1	-.1	-.1	-.1	-.1	-.1	-.3	-.3	-.2	-.1	-.1	-.2	-.2	-.1	-.1	-.2	-.2	-.1	-.1	-.1	-.1
-.2	-.2	-.2	-.2	-.2	-.3	-.4	-.3	-.2	-.2	-.2	-.2	-.2	-.2	-.2	-.3	-.2	-.2	-.2	-.2	-.2	-.3	-.4	-.4	-.4	-.4	-.4	-.4	-.3	-.3	-.3	-.3	-.2	-.2	-.2	-.3
-.4	-.4	-.4	-.3	-.4	-.4	-.4	-.3	-.3	-.3	-.3	-.3	-.3	-.3	-.4	-.4	-.4	-.3	-.3	-.2	-.3	-.4	-.3	-.4	-.4	-.3	-.3	-.3	-.3	-.3	-.3	-.2	-.2	-.2	-.3	-.4
-.4	-.5	-.5	-.4	-.5	-.4	-.4	-.4	-.3	-.3	-.4	-.4	-.4	-.4	-.4	-.4	-.4	-.5	-.5	-.5	-.6	-.5	-.5	-.5	-.4	-.3	-.2	-.3	-.3	-.3	-.3	-.3	-.3	-.3	-.4	-.4
-.4	-.4	-.5	-.5	-.4	-.4	-.4	-.4	-.3	-.3	-.4	-.4	-.4	-.4	-.4	-.4	-.5	-.5	-.5	-.5	-.5	-.6	-.6	-.5	-.4	-.4	-.3	-.3	-.4	-.4	-.4	-.4	-.4	-.4	-.4	-.3
-.4	-.4	-.4	-.5	-.4	-.4	-.4	-.4	-.4	-.3	-.3	-.4	-.4	-.4	-.4	-.4	-.4	-.4	-.4	-.3	-.3	-.4	-.4	-.4	-.4	-.4	-.3	-.4	-.4	-.4	-.4	-.4	-.4	-.4	-.4	-.4
-.2	-.3	-.3	-.3	-.3	-.3	-.3	-.3	-.3	-.3	-.2	-.3	-.3	-.3	-.2	-.2	-.2	-.2	-.2	-.2	-.2	-.2	-.3	-.3	-.3	-.3	-.3	-.3	-.3	-.3	-.2	-.3	-.3	-.3	-.3	-.2
.0	.0	.1	.0	.0	.0	-.1	-.1	-.1	.0	-.1	-.1	-.1	-.1	.0	-.1	-.1	-.1	-.1	-.1	-.1	-.1	-.1	-.2	-.2	-.1	-.1	-.1	.0	.0	.0	.0	-.1	-.1	.0	.0
.1	.2	.2	.2	.2	.2	.2	.1	.2	.1	.1	.1	.1	.1	.1	.0	.0	.0	-.1	-.1	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.1	.0	.0	.0	.0	.0
.0	.1	.1	.2	.2	.2	.2	.2	.1	.1	.1	.1	.0	.0	-.1	-.1	.0	-.1	-.1	-.1	-.1	-.1	-.1	-.1	-.1	-.1	-.1	-.1	.0	.0	.0	-.1	-.1	-.1	-.1	-.1
-.2	-.1	.0	.0	.0	.0	.0	.0	.0	-.1	-.1	-.2	-.2	-.3	-.3	-.3	-.3	-.4	-.4	-.4	-.4	-.4	-.4	-.5	-.4	-.4	-.4	-.4	-.3	-.3	-.3	-.3	-.3	-.3	-.3	-.3
-.4	-.3	-.3	-.3	-.3	-.3	-.3	-.3	-.3	-.3	-.3	-.4	-.4	-.5	-.5	-.5	-.6	-.6	-.6	-.7	-.7	-.7	-.7	-.7	-.7	-.7	-.7	-.7	-.7	-.6	-.6	-.6	-.6	-.6	-.5	-.4
-.4	-.4	-.3	-.3	-.3	-.3	-.3	-.3	-.3	-.3	-.3	-.3	-.3	-.4	-.4	-.4	-.4	-.5	-.5	-.5	-.6	-.6	-.6	-.5	-.5	-.6	-.6	-.5	-.6	-.5	-.5	-.5	-.4	-.4	-.4	-.4

Figure 39. ATOVS SD O-B brightness temperature differences (deg C). JUNE 2006
Channel: AMSUA-9 (100 hPa)
NOAA15, using all observations

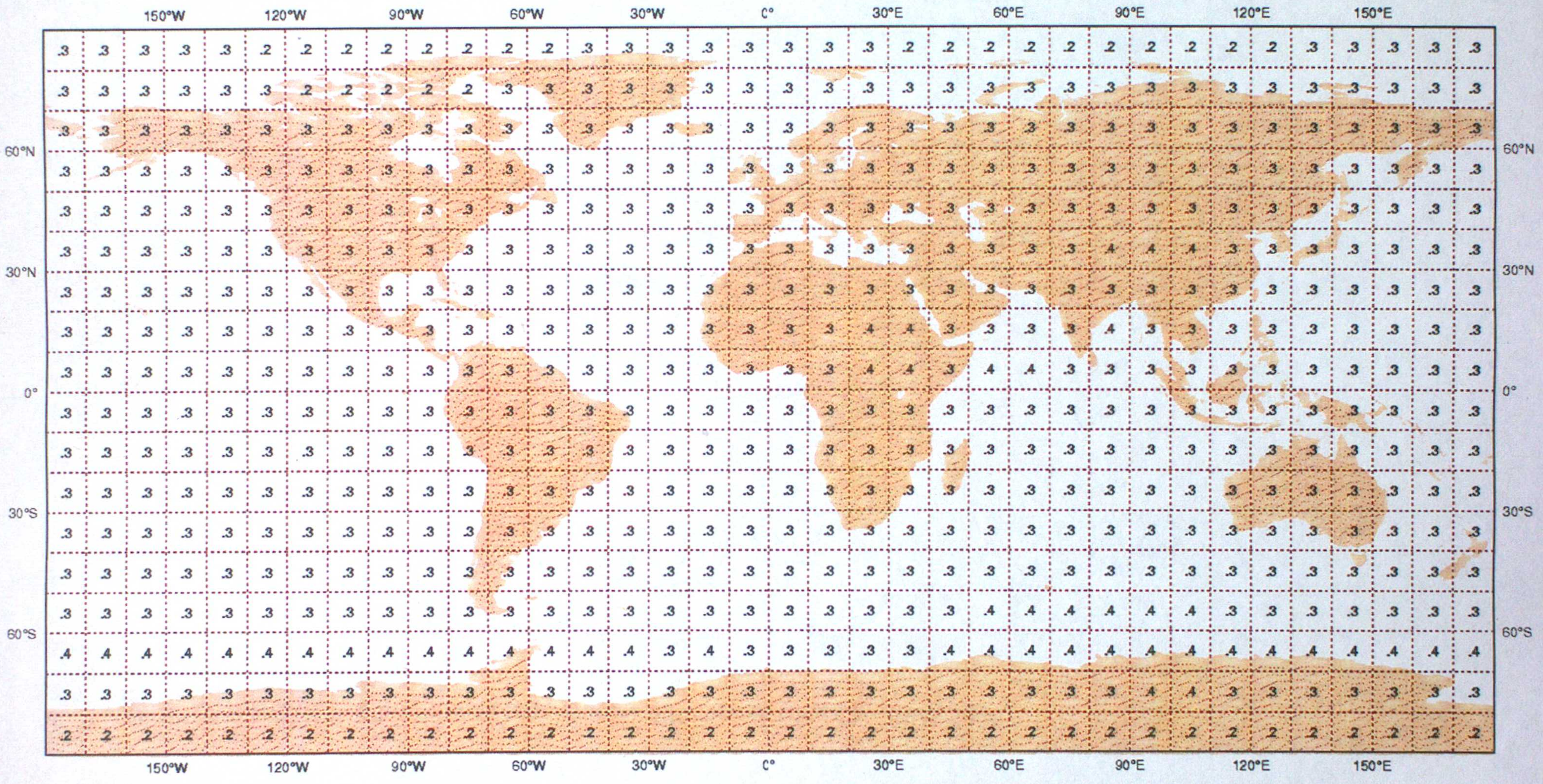
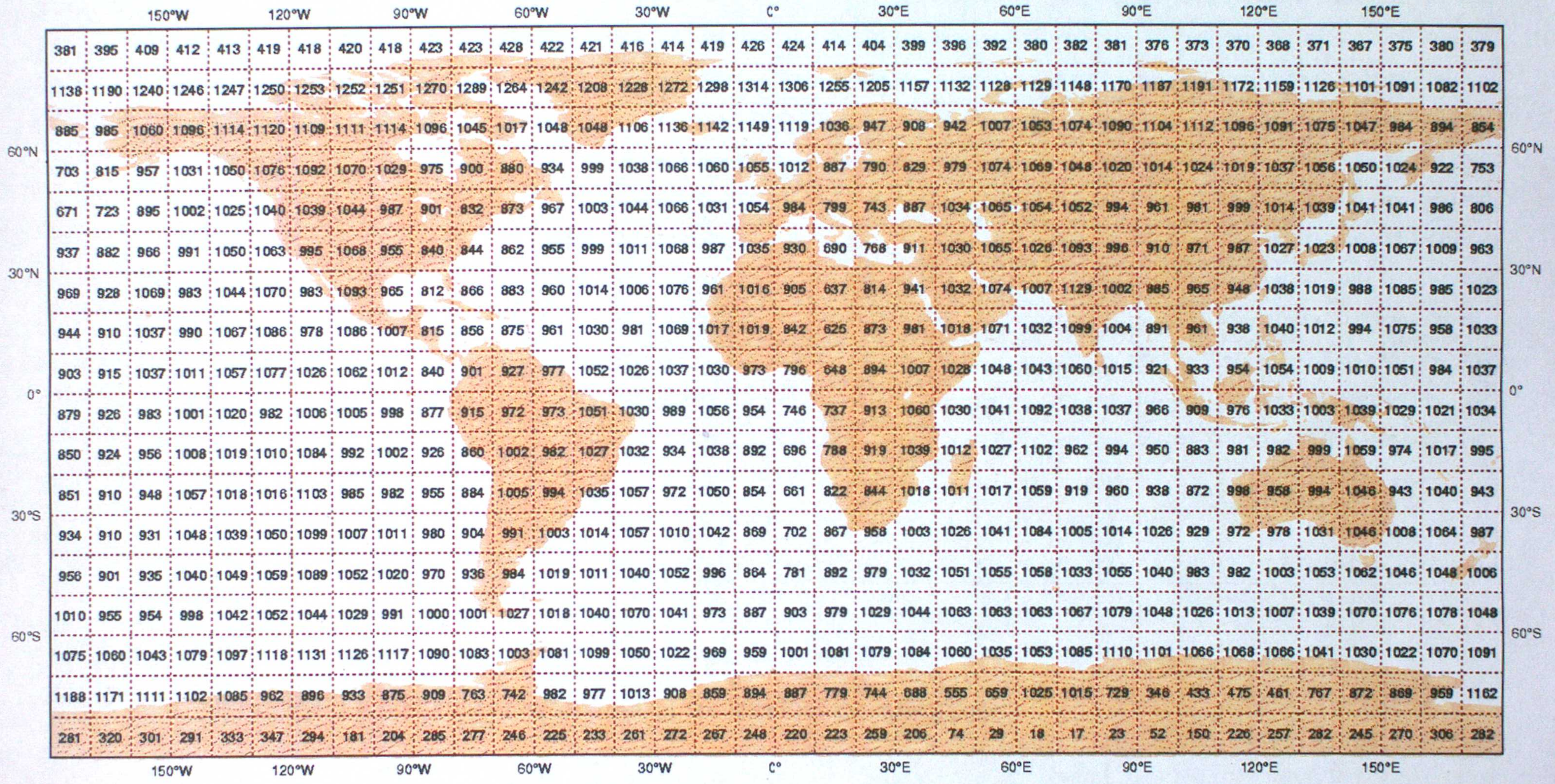
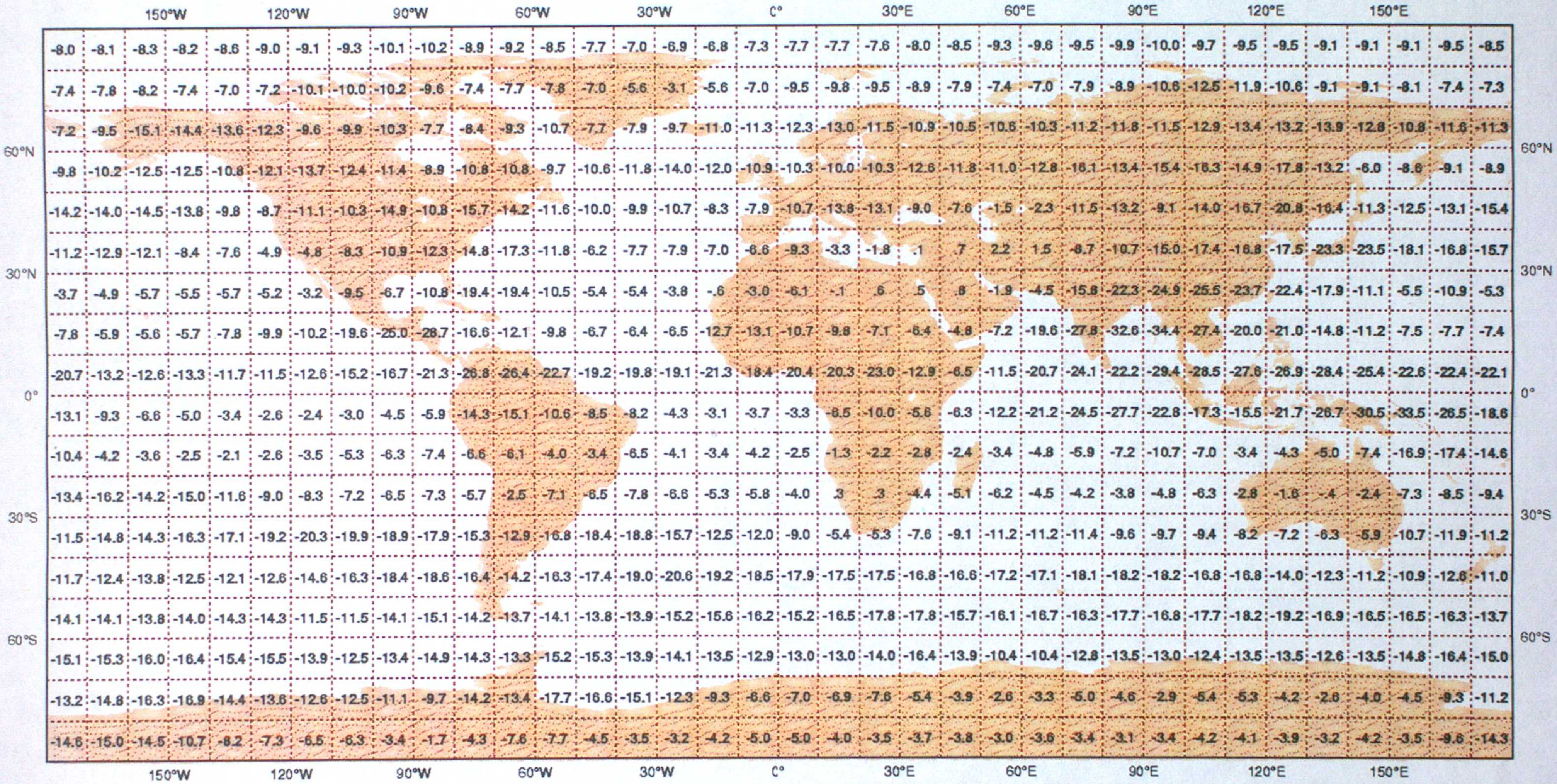

150°W
120°W
90°W
60°W
30°W
0°
30°E
60°E
90°E
120°E
150°E
60°N
30°N
0°
30°S
60°S

Figure 40. ATOVS mean daily count. JUNE 2006
NOAA16, using all observations
Global average number of observations in 24 hours = 596917



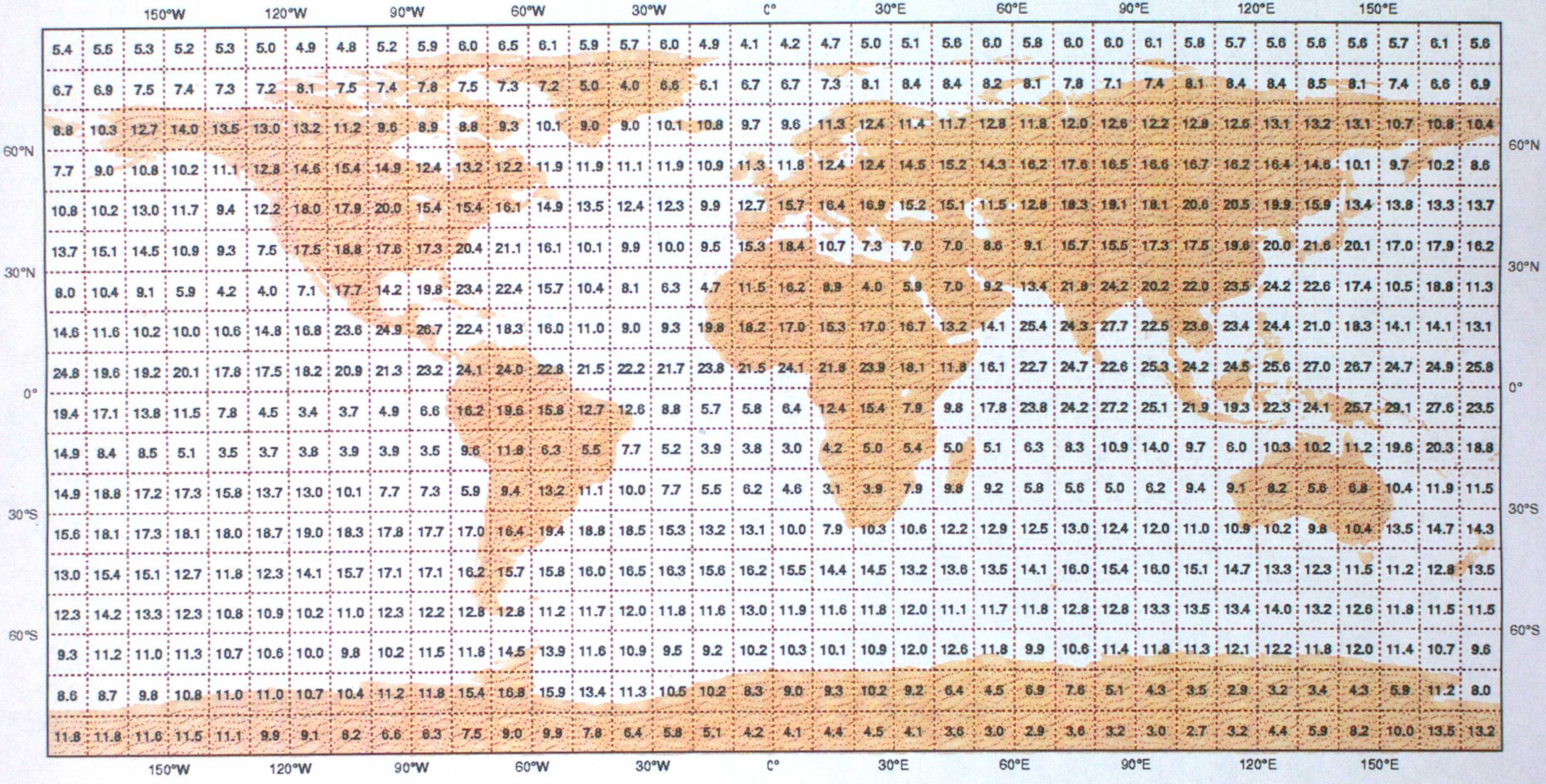
381	395	409	412	413	419	418	420	418	423	423	428	422	421	416	414	419	426	424	414	404	399	396	392	380	382	381	376	373	370	368	371	367	375	380	379
1138	1190	1240	1246	1247	1250	1253	1252	1251	1270	1289	1264	1242	1208	1228	1272	1298	1314	1306	1255	1205	1157	1132	1128	1129	1148	1170	1187	1191	1172	1159	1126	1101	1091	1082	1102
885	985	1060	1096	1114	1120	1109	1111	1114	1096	1045	1017	1048	1048	1106	1136	1142	1149	1119	1036	947	908	942	1007	1053	1074	1090	1104	1112	1096	1091	1075	1047	984	894	854
703	815	957	1031	1050	1076	1092	1070	1029	975	900	880	934	999	1038	1066	1060	1055	1012	887	790	829	979	1074	1069	1048	1020	1014	1024	1019	1037	1056	1050	1024	922	753
671	723	895	1002	1025	1040	1039	1044	987	901	832	873	967	1003	1044	1066	1031	1054	984	799	743	887	1034	1065	1054	1052	994	961	981	999	1014	1039	1041	1041	986	806
937	882	966	991	1050	1063	995	1068	955	840	844	862	955	999	1011	1068	987	1035	930	690	768	911	1030	1065	1026	1093	996	910	971	987	1027	1023	1008	1067	1009	963
969	928	1069	983	1044	1070	983	1093	965	812	866	883	960	1014	1006	1076	961	1016	905	637	814	941	1032	1074	1007	1129	1002	985	965	948	1038	1019	988	1085	985	1023
944	910	1037	990	1067	1086	978	1086	1007	815	856	875	961	1030	981	1069	1017	1019	842	625	873	981	1018	1071	1032	1099	1004	891	961	938	1040	1012	994	1075	958	1033
903	915	1037	1011	1057	1077	1026	1062	1012	840	901	927	977	1052	1026	1037	1030	973	796	648	894	1007	1028	1048	1043	1060	1015	921	933	954	1054	1009	1010	1051	984	1037
879	926	983	1001	1020	982	1006	1005	998	877	915	972	973	1051	1030	989	1056	954	746	737	913	1060	1030	1041	1092	1038	1037	966	909	976	1033	1003	1039	1029	1021	1034
850	924	956	1008	1019	1010	1084	992	1002	926	860	1002	982	1027	1032	934	1038	892	696	788	919	1039	1012	1027	1102	962	994	950	883	981	982	999	1059	974	1017	995
851	910	948	1057	1018	1016	1103	985	982	955	884	1005	994	1035	1057	972	1050	854	661	822	844	1018	1011	1017	1059	919	960	938	872	998	958	994	1046	943	1040	943
934	910	931	1048	1039	1050	1099	1007	1011	980	904	991	1003	1014	1057	1010	1042	869	702	867	958	1003	1026	1041	1084	1005	1014	1026	929	972	978	1031	1046	1008	1064	987
956	901	935	1040	1049	1059	1089	1052	1020	970	936	984	1019	1011	1040	1052	996	864	781	892	979	1032	1051	1055	1058	1033	1055	1040	983	982	1003	1053	1062	1046	1048	1006
1010	955	954	998	1042	1052	1044	1029	991	1000	1001	1027	1018	1040	1070	1041	973	887	903	979	1029	1044	1063	1063	1063	1067	1079	1048	1026	1013	1007	1039	1070	1076	1078	1048
1075	1060	1043	1079	1097	1118	1131	1126	1117	1090	1083	1003	1081	1099	1050	1022	969	959	1001	1081	1079	1084	1060	1035	1053	1085	1110	1101	1066	1068	1066	1041	1030	1022	1070	1091
1188	1171	1111	1102	1085	962	896	933	875	909	763	742	982	977	1013	908	859	894	887	779	744	688	555	659	1025	1015	729	346	433	475	461	767	872	869	959	1162
281	320	301	291	333	347	294	181	204	285	277	246	225	233	261	272	267	248	220	223	259	206	74	29	18	17	23	52	150	226	257	282	245	270	306	282

Figure 41. ATOVS MEAN O-B brightness temperature differences (deg C). JUNE 2006
Channel: HIRS8 (Surface)
NOAA16, using all observations



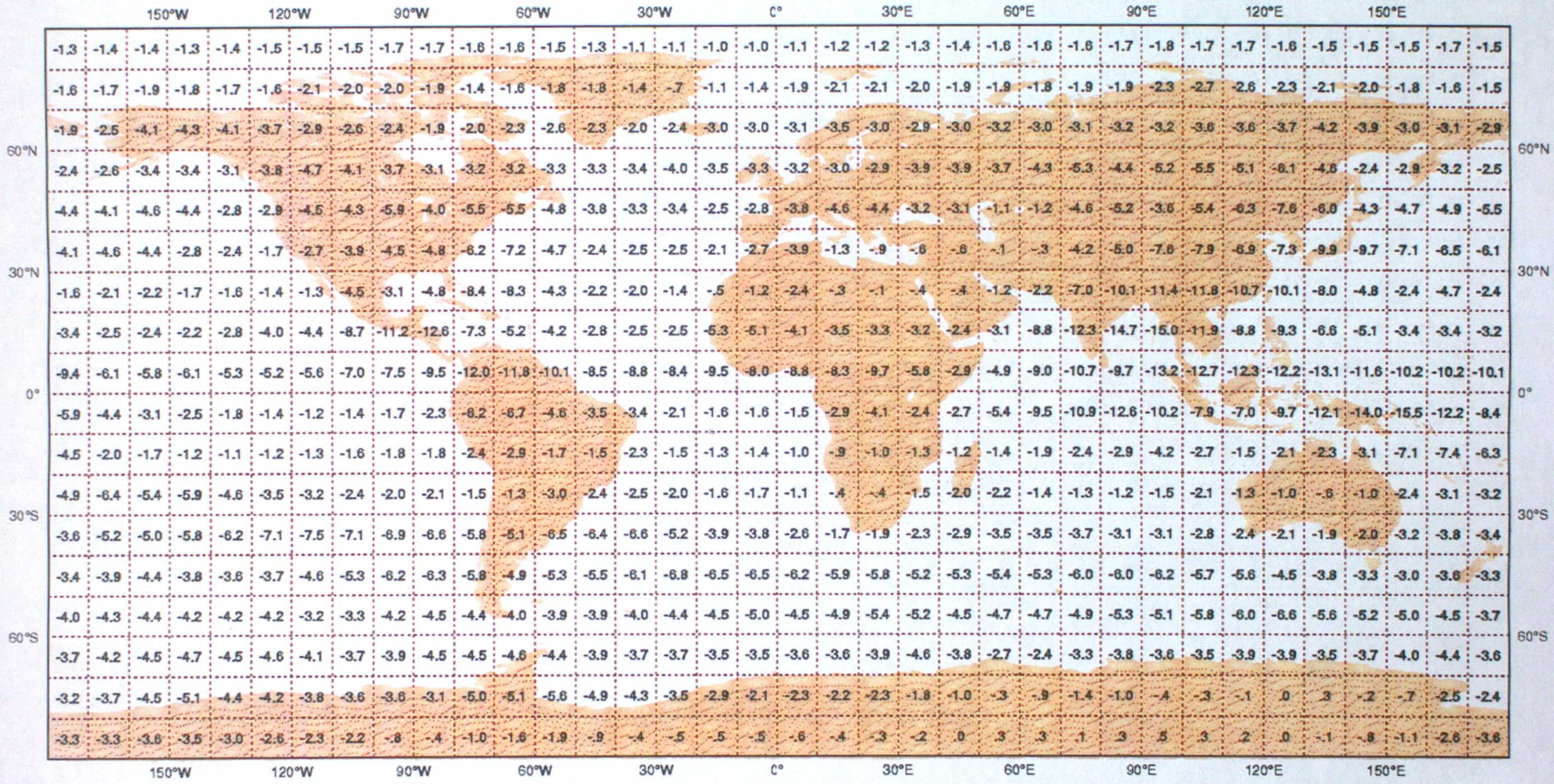
-8.0	-8.1	-8.3	-8.2	-8.6	-9.0	-9.1	-9.3	-10.1	-10.2	-8.9	-9.2	-8.5	-7.7	-7.0	-6.9	-6.8	-7.3	-7.7	-7.7	-7.6	-8.0	-8.5	-9.3	-9.6	-9.5	-9.9	-10.0	-9.7	-9.5	-9.5	-9.1	-9.1	-9.1	-9.5	-8.5
-7.4	-7.8	-8.2	-7.4	-7.0	-7.2	-10.1	-10.0	-10.2	-9.6	-7.4	-7.7	-7.8	-7.0	-5.6	-3.1	-5.6	-7.0	-9.5	-9.8	-9.5	-8.9	-7.9	-7.4	-7.0	-7.9	-8.9	-10.6	-12.5	-11.9	-10.6	-9.1	-9.1	-8.1	-7.4	-7.3
-7.2	-9.5	-15.1	-14.4	-13.6	-12.3	-9.6	-9.9	-10.3	-7.7	-8.4	-9.3	-10.7	-7.7	-7.9	-9.7	-11.0	-11.3	-12.3	-13.0	-11.5	-10.9	-10.5	-10.6	-10.3	-11.2	-11.8	-11.5	-12.9	-13.4	-13.2	-13.9	-12.8	-10.8	-11.6	-11.3
-9.8	-10.2	-12.5	-12.5	-10.8	-12.1	-13.7	-12.4	-11.4	-8.9	-10.8	-10.8	-9.7	-10.6	-11.8	-14.0	-12.0	-10.9	-10.3	-10.0	-10.3	-12.6	-11.8	-11.0	-12.8	-16.1	-13.4	-15.4	-16.3	-14.9	-17.8	-13.2	-6.0	-8.6	-9.1	-8.9
-14.2	-14.0	-14.5	-13.8	-9.8	-8.7	-11.1	-10.3	-14.9	-10.8	-15.7	-14.2	-11.6	-10.0	-9.9	-10.7	-8.3	-7.9	-10.7	-13.8	-13.1	-9.0	-7.6	-1.5	-2.3	-11.5	-13.2	-9.1	-14.0	-16.7	-20.8	-16.4	-11.3	-12.5	-13.1	-15.4
-11.2	-12.9	-12.1	-8.4	-7.6	-4.9	-4.8	-8.3	-10.9	-12.3	-14.8	-17.3	-11.8	-6.2	-7.7	-7.9	-7.0	-6.6	-9.3	-3.3	-1.8	.1	.7	2.2	1.5	-8.7	-10.7	-15.0	-17.4	-16.8	-17.5	-23.3	-23.5	-18.1	-16.8	-15.7
-3.7	-4.9	-5.7	-5.5	-5.7	-5.2	-3.2	-9.5	-6.7	-10.8	-19.4	-19.4	-10.5	-5.4	-5.4	-3.8	-.6	-3.0	-6.1	-.1	.6	.5	.8	-1.9	-4.5	-15.8	-22.3	-24.9	-25.5	-23.7	-22.4	-17.9	-11.1	-5.5	-10.9	-5.3
-7.8	-5.9	-5.6	-5.7	-7.8	-9.9	-10.2	-19.6	-25.0	-28.7	-16.6	-12.1	-9.8	-6.7	-6.4	-6.5	-12.7	-13.1	-10.7	-9.8	-7.1	-6.4	-4.8	-7.2	-19.6	-27.8	-32.6	-34.4	-27.4	-20.0	-21.0	-14.8	-11.2	-7.5	-7.7	-7.4
-20.7	-13.2	-12.6	-13.3	-11.7	-11.5	-12.6	-15.2	-16.7	-21.3	-26.8	-26.4	-22.7	-19.2	-19.8	-19.1	-21.3	-18.4	-20.4	-20.3	-23.0	-12.9	-6.5	-11.5	-20.7	-24.1	-22.2	-29.4	-28.5	-27.6	-26.9	-28.4	-25.4	-22.6	-22.4	-22.1
-13.1	-9.3	-6.6	-5.0	-3.4	-2.6	-2.4	-3.0	-4.5	-5.9	-14.3	-15.1	-10.6	-8.5	-8.2	-4.3	-3.1	-3.7	-3.3	-6.5	-10.0	-5.6	-6.3	-12.2	-21.2	-24.5	-27.7	-22.8	-17.3	-15.5	-21.7	-26.7	-30.5	-33.5	-26.5	-18.6
-10.4	-4.2	-3.6	-2.5	-2.1	-2.6	-3.5	-5.3	-6.3	-7.4	-6.6	-6.1	-4.0	-3.4	-6.5	-4.1	-3.4	-4.2	-2.5	-1.3	-2.2	-2.8	-2.4	-3.4	-4.8	-5.9	-7.2	-10.7	-7.0	-3.4	-4.3	-5.0	-7.4	-16.9	-17.4	-14.6
-13.4	-16.2	-14.2	-15.0	-11.6	-9.0	-8.3	-7.2	-6.5	-7.3	-5.7	-2.5	-7.1	-6.5	-7.8	-6.6	-5.3	-5.8	-4.0	.3	.3	-4.4	-5.1	-6.2	-4.5	-4.2	-3.8	-4.8	-6.3	-2.8	-1.6	-.4	-2.4	-7.3	-8.5	-9.4
-11.5	-14.8	-14.3	-16.3	-17.1	-19.2	-20.3	-19.9	-18.9	-17.9	-15.3	-12.9	-16.8	-18.4	-18.8	-15.7	-12.5	-12.0	-9.0	-5.4	-5.3	-7.6	-9.1	-11.2	-11.2	-11.4	-9.6	-9.7	-9.4	-8.2	-7.2	-6.3	-5.9	-10.7	-11.9	-11.2
-11.7	-12.4	-13.8	-12.5	-12.1	-12.6	-14.6	-16.3	-18.4	-18.6	-16.4	-14.2	-16.3	-17.4	-19.0	-20.6	-19.2	-18.5	-17.9	-17.5	-17.5	-16.8	-16.6	-17.2	-17.1	-18.1	-18.2	-18.2	-16.8	-16.8	-14.0	-12.3	-11.2	-10.9	-12.6	-11.0
-14.1	-14.1	-13.8	-14.0	-14.3	-14.3	-11.5	-11.5	-14.1	-15.1	-14.2	-13.7	-14.1	-13.8	-13.9	-15.2	-15.6	-16.2	-15.2	-16.5	-17.8	-17.8	-15.7	-16.1	-16.7	-16.3	-17.7	-16.8	-17.7	-18.2	-19.2	-16.9	-16.5	-16.5	-16.3	-13.7
-15.1	-15.3	-16.0	-16.4	-15.4	-15.5	-13.9	-12.5	-13.4	-14.9	-14.3	-13.3	-15.2	-15.3	-13.9	-14.1	-13.5	-12.9	-13.0	-13.0	-14.0	-16.4	-13.9	-10.4	-10.4	-12.8	-13.5	-13.0	-12.4	-13.5	-13.5	-12.6	-13.5	-14.8	-16.4	-15.0
-13.2	-14.8	-16.3	-16.9	-14.4	-13.6	-12.6	-12.5	-11.1	-9.7	-14.2	-13.4	-17.7	-16.6	-15.1	-12.3	-9.3	-6.6	-7.0	-6.9	-7.6	-5.4	-3.9	-2.6	-3.3	-6.0	-4.6	-2.9	-5.4	-5.3	-4.2	-2.6	-4.0	-4.5	-9.3	-11.2
-14.6	-15.0	-14.5	-10.7	-8.2	-7.3	-6.5	-6.3	-3.4	-1.7	-4.3	-7.6	-7.7	-4.5	-3.5	-3.2	-4.2	-5.0	-5.0	-4.0	-3.5	-3.7	-3.8	-3.0	-3.6	-3.4	-3.1	-3.4	-4.2	-4.1	-3.9	-3.2	-4.2	-3.5	-9.6	-14.3

Figure 42. ATOVS SD O-B brightness temperature differences (deg C). JUNE 2006
Channel: HIRS8 (Surface)
NOAA16, using all observations



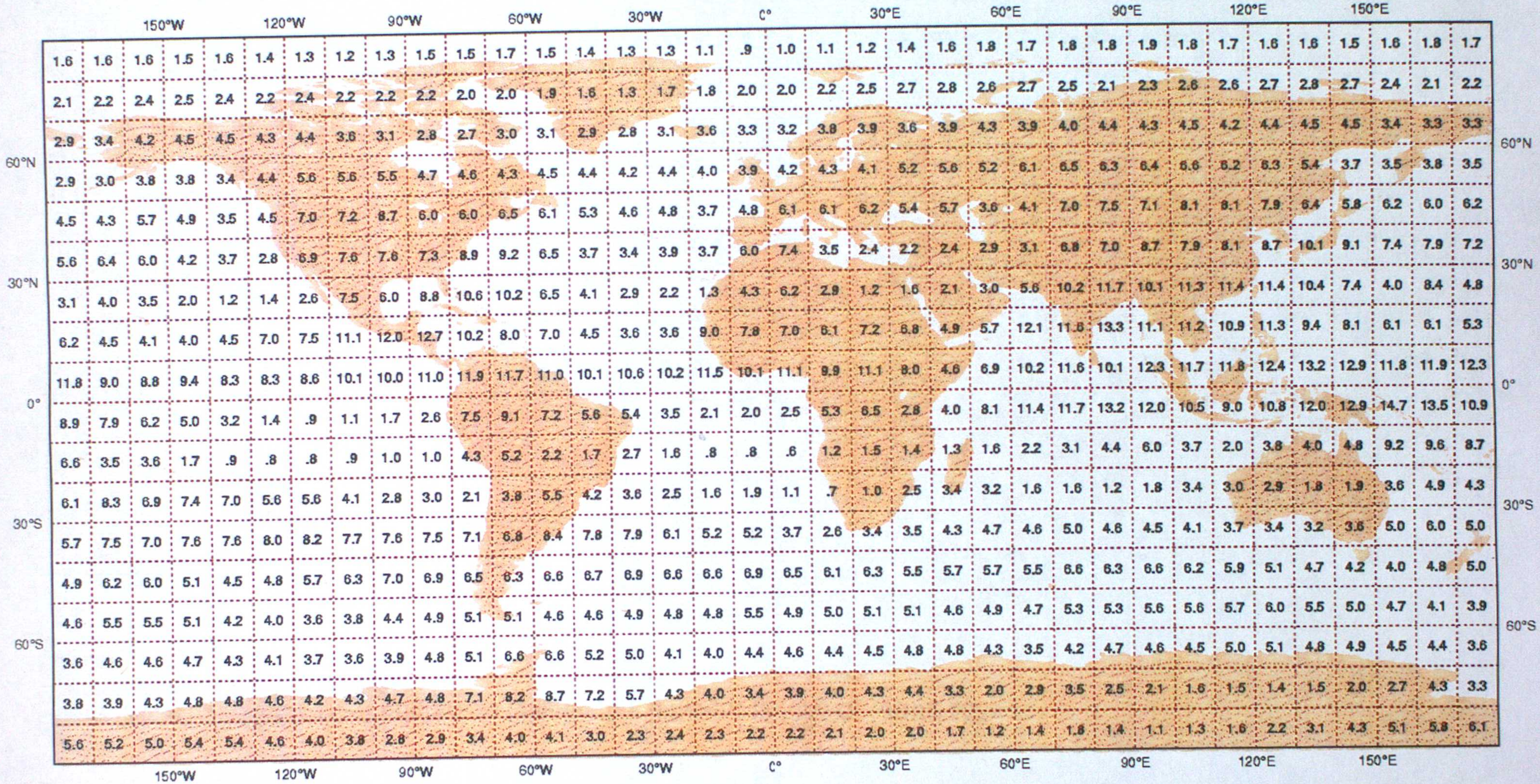
5.4	5.5	5.3	5.2	5.3	5.0	4.9	4.8	5.2	5.9	6.0	6.5	6.1	5.9	5.7	6.0	4.9	4.1	4.2	4.7	5.0	5.1	5.6	6.0	5.8	6.0	6.0	6.1	5.8	5.7	5.6	5.6	5.6	5.7	6.1	5.6
6.7	6.9	7.5	7.4	7.3	7.2	8.1	7.5	7.4	7.8	7.5	7.3	7.2	5.0	4.0	6.6	6.1	6.7	6.7	7.3	8.1	8.4	8.4	8.2	8.1	7.8	7.1	7.4	8.1	8.4	8.4	8.5	8.1	7.4	6.6	6.9
8.8	10.3	12.7	14.0	13.5	13.0	13.2	11.2	9.6	8.9	8.8	9.3	10.1	9.0	9.0	10.1	10.8	9.7	9.6	11.3	12.4	11.4	11.7	12.8	11.8	12.0	12.6	12.2	12.8	12.6	13.1	13.2	13.1	10.7	10.8	10.4
7.7	9.0	10.8	10.2	11.1	12.8	14.6	15.4	14.9	12.4	13.2	12.2	11.9	11.9	11.1	11.9	10.9	11.3	11.8	12.4	12.4	14.5	15.2	14.3	16.2	17.6	16.5	16.6	16.7	16.2	16.4	14.6	10.1	9.7	10.2	8.6
10.8	10.2	13.0	11.7	9.4	12.2	18.0	17.9	20.0	15.4	15.4	16.1	14.9	13.5	12.4	12.3	9.9	12.7	15.7	16.4	16.9	15.2	15.1	11.5	12.8	18.3	19.1	18.1	20.6	20.5	19.9	15.9	13.4	13.8	13.3	13.7
13.7	15.1	14.5	10.9	9.3	7.5	17.5	18.8	17.6	17.3	20.4	21.1	16.1	10.1	9.9	10.0	9.5	15.3	18.4	10.7	7.3	7.0	7.0	8.6	9.1	15.7	15.5	17.3	17.5	19.6	20.0	21.6	20.1	17.0	17.9	16.2
8.0	10.4	9.1	5.9	4.2	4.0	7.1	17.7	14.2	19.8	23.4	22.4	15.7	10.4	8.1	6.3	4.7	11.5	16.2	8.9	4.0	5.9	7.0	9.2	13.4	21.8	24.2	20.2	22.0	23.5	24.2	22.6	17.4	10.5	18.8	11.3
14.6	11.6	10.2	10.0	10.6	14.8	16.8	23.6	24.9	26.7	22.4	18.3	16.0	11.0	9.0	9.3	19.8	18.2	17.0	15.3	17.0	16.7	13.2	14.1	25.4	24.3	27.7	22.5	23.6	23.4	24.4	21.0	18.3	14.1	14.1	13.1
24.8	19.6	19.2	20.1	17.8	17.5	18.2	20.9	21.3	23.2	24.1	24.0	22.8	21.5	22.2	21.7	23.8	21.5	24.1	21.8	23.9	18.1	11.8	16.1	22.7	24.7	22.6	25.3	24.2	24.5	25.6	27.0	26.7	24.7	24.9	25.8
19.4	17.1	13.8	11.5	7.8	4.5	3.4	3.7	4.9	6.6	16.2	19.6	15.8	12.7	12.6	8.8	5.7	5.8	6.4	12.4	15.4	7.9	9.8	17.8	23.8	24.2	27.2	25.1	21.9	19.3	22.3	24.1	25.7	29.1	27.6	23.5
14.9	8.4	8.5	5.1	3.5	3.7	3.8	3.9	3.9	3.5	9.6	11.8	6.3	5.5	7.7	5.2	3.9	3.8	3.0	4.2	5.0	5.4	5.0	5.1	6.3	8.3	10.9	14.0	9.7	6.0	10.3	10.2	11.2	19.6	20.3	18.8
14.9	18.8	17.2	17.3	15.8	13.7	13.0	10.1	7.7	7.3	5.9	9.4	13.2	11.1	10.0	7.7	5.5	6.2	4.6	3.1	3.9	7.9	9.8	9.2	5.8	5.6	5.0	6.2	9.4	9.1	8.2	5.6	6.8	10.4	11.9	11.5
15.6	18.1	17.3	18.1	18.0	18.7	19.0	18.3	17.8	17.7	17.0	16.4	19.4	18.8	18.5	15.3	13.2	13.1	10.0	7.9	10.3	10.6	12.2	12.9	12.5	13.0	12.4	12.0	11.0	10.9	10.2	9.8	10.4	13.5	14.7	14.3
13.0	15.4	15.1	12.7	11.8	12.3	14.1	15.7	17.1	17.1	16.2	15.7	15.8	16.0	16.5	16.3	15.6	16.2	15.5	14.4	14.5	13.2	13.6	13.5	14.1	16.0	15.4	16.0	15.1	14.7	13.3	12.3	11.5	11.2	12.8	13.5
12.3	14.2	13.3	12.3	10.8	10.9	10.2	11.0	12.3	12.2	12.8	12.8	11.2	11.7	12.0	11.8	11.6	13.0	11.9	11.6	11.8	12.0	11.1	11.7	11.8	12.8	12.8	13.3	13.5	13.4	14.0	13.2	12.6	11.8	11.5	11.5
9.3	11.2	11.0	11.3	10.7	10.6	10.0	9.8	10.2	11.5	11.8	14.5	13.9	11.6	10.9	9.5	9.2	10.2	10.3	10.1	10.9	12.0	12.6	11.8	9.9	10.6	11.4	11.8	11.3	12.1	12.2	11.8	12.0	11.4	10.7	9.6
8.6	8.7	9.8	10.8	11.0	11.0	10.7	10.4	11.2	11.8	15.4	16.8	15.9	13.4	11.3	10.5	10.2	8.3	9.0	9.3	10.2	9.2	6.4	4.5	6.9	7.6	5.1	4.3	3.5	2.9	3.2	3.4	4.3	5.9	11.2	8.0
11.8	11.8	11.6	11.5	11.1	9.9	9.1	8.2	6.6	6.3	7.5	9.0	9.9	7.8	6.4	5.8	5.1	4.2	4.1	4.4	4.5	4.1	3.6	3.0	2.9	3.6	3.2	3.0	2.7	3.2	4.4	5.9	8.2	10.0	13.5	13.2

Figure 43. ATOVS MEAN O-B brightness temperature differences (deg C). JUNE 2006
Channel: HIRS15 (700 hPa)
NOAA16, using all observations



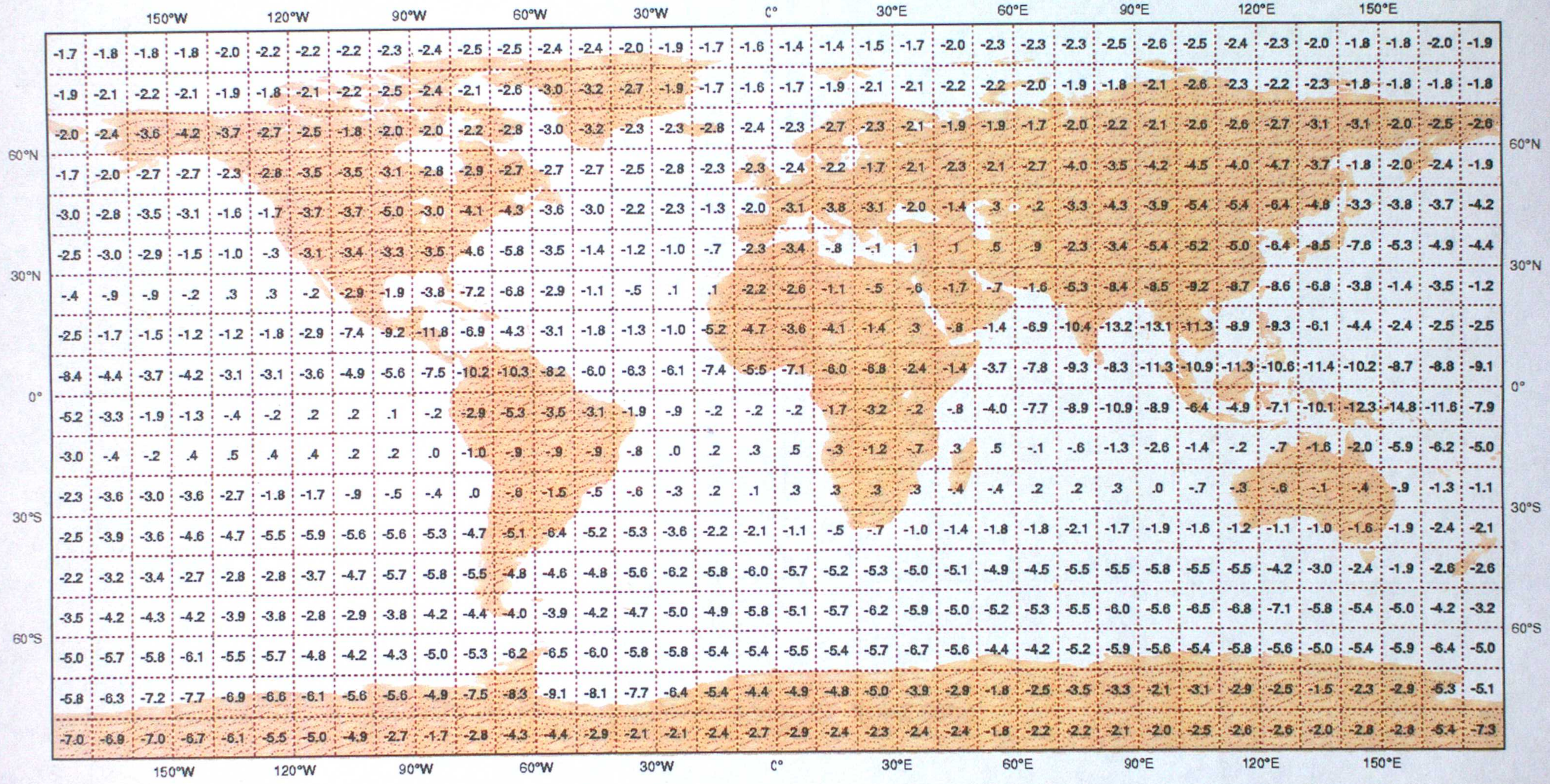
-1.3	-1.4	-1.4	-1.3	-1.4	-1.5	-1.5	-1.5	-1.7	-1.7	-1.6	-1.6	-1.5	-1.3	-1.1	-1.1	-1.0	-1.0	-1.1	-1.2	-1.2	-1.3	-1.4	-1.6	-1.6	-1.6	-1.7	-1.8	-1.7	-1.7	-1.6	-1.5	-1.5	-1.5	-1.7	-1.5
-1.6	-1.7	-1.9	-1.8	-1.7	-1.6	-2.1	-2.0	-2.0	-1.9	-1.4	-1.6	-1.8	-1.8	-1.4	-.7	-1.1	-1.4	-1.9	-2.1	-2.1	-2.0	-1.9	-1.9	-1.8	-1.9	-1.9	-2.3	-2.7	-2.6	-2.3	-2.1	-2.0	-1.8	-1.6	-1.5
-1.9	-2.5	-4.1	-4.3	-4.1	-3.7	-2.9	-2.6	-2.4	-1.9	-2.0	-2.3	-2.6	-2.3	-2.0	-2.4	-3.0	-3.0	-3.1	-3.5	-3.0	-2.9	-3.0	-3.2	-3.0	-3.1	-3.2	-3.2	-3.6	-3.6	-3.7	-4.2	-3.9	-3.0	-3.1	-2.9
-2.4	-2.6	-3.4	-3.4	-3.1	-3.8	-4.7	-4.1	-3.7	-3.1	-3.2	-3.2	-3.3	-3.3	-3.4	-4.0	-3.5	-3.3	-3.2	-3.0	-2.9	-3.9	-3.9	-3.7	-4.3	-5.3	-4.4	-5.2	-5.5	-5.1	-6.1	-4.6	-2.4	-2.9	-3.2	-2.5
-4.4	-4.1	-4.6	-4.4	-2.8	-2.9	-4.5	-4.3	-5.9	-4.0	-5.5	-5.5	-4.8	-3.8	-3.3	-3.4	-2.5	-2.8	-3.8	-4.6	-4.4	-3.2	-3.1	-1.1	-1.2	-4.6	-5.2	-3.6	-5.4	-6.3	-7.6	-6.0	-4.3	-4.7	-4.9	-5.5
-4.1	-4.6	-4.4	-2.8	-2.4	-1.7	-2.7	-3.9	-4.5	-4.8	-6.2	-7.2	-4.7	-2.4	-2.5	-2.5	-2.1	-2.7	-3.9	-1.3	-.9	-.6	-.6	-.1	-.3	-4.2	-5.0	-7.6	-7.9	-6.9	-7.3	-9.9	-9.7	-7.1	-6.5	-6.1
-1.6	-2.1	-2.2	-1.7	-1.6	-1.4	-1.3	-4.5	-3.1	-4.8	-8.4	-8.3	-4.3	-2.2	-2.0	-1.4	-.5	-1.2	-2.4	-.3	-.1	-.4	-.4	-1.2	-2.2	-7.0	-10.1	-11.4	-11.8	-10.7	-10.1	-8.0	-4.8	-2.4	-4.7	-2.4
-3.4	-2.5	-2.4	-2.2	-2.8	-4.0	-4.4	-8.7	-11.2	-12.6	-7.3	-5.2	-4.2	-2.8	-2.5	-2.5	-5.3	-5.1	-4.1	-3.5	-3.3	-3.2	-2.4	-3.1	-8.8	-12.3	-14.7	-15.0	-11.9	-8.8	-9.3	-6.6	-5.1	-3.4	-3.4	-3.2
-9.4	-6.1	-5.8	-6.1	-5.3	-5.2	-5.6	-7.0	-7.5	-9.5	-12.0	-11.8	-10.1	-8.5	-8.8	-8.4	-9.5	-8.0	-8.8	-8.3	-9.7	-5.8	-2.9	-4.9	-9.0	-10.7	-9.7	-13.2	-12.7	-12.3	-12.2	-13.1	-11.6	-10.2	-10.2	-10.1
-5.9	-4.4	-3.1	-2.5	-1.8	-1.4	-1.2	-1.4	-1.7	-2.3	-6.2	-6.7	-4.6	-3.5	-3.4	-2.1	-1.6	-1.6	-1.5	-2.9	-4.1	-2.4	-2.7	-5.4	-9.5	-10.9	-12.6	-10.2	-7.9	-7.0	-9.7	-12.1	-14.0	-15.5	-12.2	-8.4
-4.5	-2.0	-1.7	-1.2	-1.1	-1.2	-1.3	-1.6	-1.8	-1.8	-2.4	-2.9	-1.7	-1.5	-2.3	-1.5	-1.3	-1.4	-1.0	-.9	-1.0	-1.3	-1.2	-1.4	-1.9	-2.4	-2.9	-4.2	-2.7	-1.5	-2.1	-2.3	-3.1	-7.1	-7.4	-6.3
-4.9	-6.4	-5.4	-5.9	-4.6	-3.5	-3.2	-2.4	-2.0	-2.1	-1.5	-1.3	-3.0	-2.4	-2.5	-2.0	-1.6	-1.7	-1.1	-.4	-.4	-1.5	-2.0	-2.2	-1.4	-1.3	-1.2	-1.5	-2.1	-1.3	-1.0	-.6	-1.0	-2.4	-3.1	-3.2
-3.6	-5.2	-5.0	-5.8	-6.2	-7.1	-7.5	-7.1	-6.9	-6.6	-5.8	-5.1	-6.5	-6.4	-6.6	-5.2	-3.9	-3.8	-2.6	-1.7	-1.9	-2.3	-2.9	-3.5	-3.5	-3.7	-3.1	-3.1	-2.8	-2.4	-2.1	-1.9	-2.0	-3.2	-3.8	-3.4
-3.4	-3.9	-4.4	-3.8	-3.6	-3.7	-4.6	-5.3	-6.2	-6.3	-5.8	-4.9	-5.3	-5.5	-6.1	-6.8	-6.5	-6.5	-6.2	-5.9	-5.8	-5.2	-5.3	-5.4	-5.3	-6.0	-6.0	-6.2	-5.7	-5.6	-4.5	-3.8	-3.3	-3.0	-3.6	-3.3
-4.0	-4.3	-4.4	-4.2	-4.2	-4.2	-3.2	-3.3	-4.2	-4.5	-4.4	-4.0	-3.9	-3.9	-4.0	-4.4	-4.5	-5.0	-4.5	-4.9	-5.4	-5.2	-4.5	-4.7	-4.7	-4.9	-5.3	-5.1	-5.8	-6.0	-6.6	-5.6	-5.2	-5.0	-4.5	-3.7
-3.7	-4.2	-4.5	-4.7	-4.5	-4.6	-4.1	-3.7	-3.9	-4.5	-4.5	-4.6	-4.4	-3.9	-3.7	-3.7	-3.5	-3.5	-3.6	-3.6	-3.9	-4.6	-3.8	-2.7	-2.4	-3.3	-3.8	-3.6	-3.5	-3.9	-3.9	-3.5	-3.7	-4.0	-4.4	-3.6
-3.2	-3.7	-4.5	-5.1	-4.4	-4.2	-3.8	-3.6	-3.6	-3.1	-5.0	-5.1	-5.6	-4.9	-4.3	-3.5	-2.9	-2.1	-2.3	-2.2	-2.3	-1.8	-1.0	-.3	-.9	-1.4	-1.0	-.4	-.3	-.1	.0	.3	-.2	-.7	-2.5	-2.4
-3.3	-3.3	-3.6	-3.5	-3.0	-2.6	-2.3	-2.2	-.8	-.4	-1.0	-1.6	-1.9	-.9	-.4	-.5	-.5	-.5	-.6	-.4	-.3	-.2	.0	.3	.3	.1	.3	.5	.3	.2	.0	-.1	-.8	-1.1	-2.6	-3.6

Figure 44. ATOVS SD O-B brightness temperature differences (deg C). JUNE 2006
Channel: HIRS15 (700 hPa)
NOAA16, using all observations



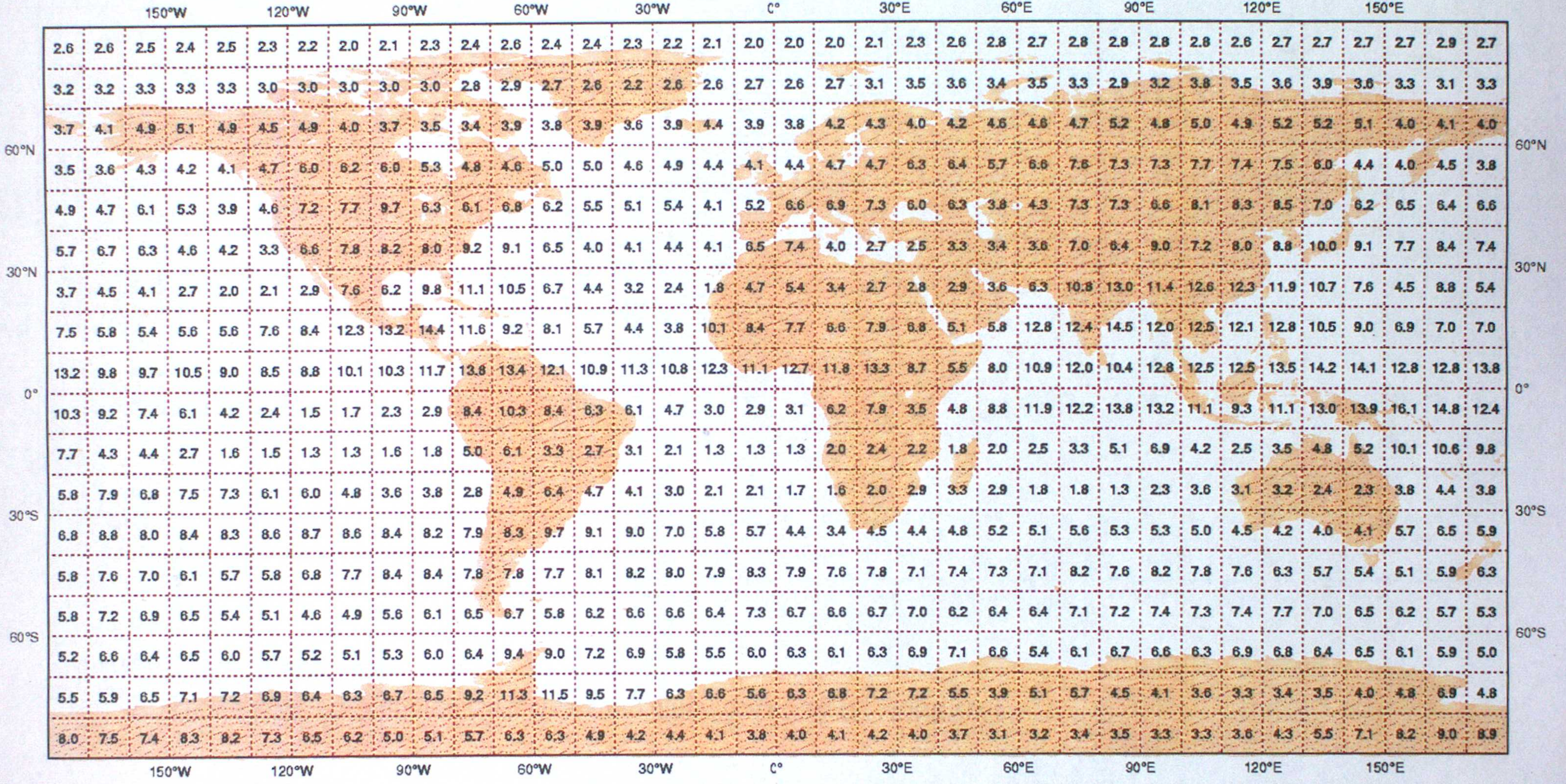
1.6	1.6	1.6	1.5	1.6	1.4	1.3	1.2	1.3	1.5	1.5	1.7	1.5	1.4	1.3	1.3	1.1	.9	1.0	1.1	1.2	1.4	1.6	1.8	1.7	1.8	1.8	1.9	1.8	1.7	1.6	1.6	1.5	1.6	1.8	1.7
2.1	2.2	2.4	2.5	2.4	2.2	2.4	2.2	2.2	2.2	2.0	2.0	1.9	1.6	1.3	1.7	1.8	2.0	2.0	2.2	2.5	2.7	2.8	2.6	2.7	2.5	2.1	2.3	2.6	2.6	2.7	2.8	2.7	2.4	2.1	2.2
2.9	3.4	4.2	4.5	4.5	4.3	4.4	3.6	3.1	2.8	2.7	3.0	3.1	2.9	2.8	3.1	3.6	3.3	3.2	3.8	3.9	3.6	3.9	4.3	3.9	4.0	4.4	4.3	4.5	4.2	4.4	4.5	4.5	3.4	3.3	3.3
2.9	3.0	3.8	3.8	3.4	4.4	5.6	5.6	5.5	4.7	4.6	4.3	4.5	4.4	4.2	4.4	4.0	3.9	4.2	4.3	4.1	5.2	5.6	5.2	6.1	6.5	6.3	6.4	6.6	6.2	6.3	5.4	3.7	3.5	3.8	3.5
4.5	4.3	5.7	4.9	3.5	4.5	7.0	7.2	8.7	6.0	6.0	6.5	6.1	5.3	4.6	4.8	3.7	4.8	6.1	6.1	6.2	5.4	5.7	3.6	4.1	7.0	7.5	7.1	8.1	8.1	7.9	6.4	5.8	6.2	6.0	6.2
5.6	6.4	6.0	4.2	3.7	2.8	6.9	7.6	7.6	7.3	8.9	9.2	6.5	3.7	3.4	3.9	3.7	6.0	7.4	3.5	2.4	2.2	2.4	2.9	3.1	6.8	7.0	8.7	7.9	8.1	8.7	10.1	9.1	7.4	7.9	7.2
3.1	4.0	3.5	2.0	1.2	1.4	2.6	7.5	6.0	8.8	10.6	10.2	6.5	4.1	2.9	2.2	1.3	4.3	6.2	2.9	1.2	1.6	2.1	3.0	5.6	10.2	11.7	10.1	11.3	11.4	11.4	10.4	7.4	4.0	8.4	4.8
6.2	4.5	4.1	4.0	4.5	7.0	7.5	11.1	12.0	12.7	10.2	8.0	7.0	4.5	3.6	3.6	9.0	7.8	7.0	6.1	7.2	6.8	4.9	5.7	12.1	11.6	13.3	11.1	11.2	10.9	11.3	9.4	8.1	6.1	6.1	5.3
11.8	9.0	8.8	9.4	8.3	8.3	8.6	10.1	10.0	11.0	11.9	11.7	11.0	10.1	10.6	10.2	11.5	10.1	11.1	9.9	11.1	8.0	4.6	6.9	10.2	11.6	10.1	12.3	11.7	11.8	12.4	13.2	12.9	11.8	11.9	12.3
8.9	7.9	6.2	5.0	3.2	1.4	.9	1.1	1.7	2.6	7.5	9.1	7.2	5.6	5.4	3.5	2.1	2.0	2.5	5.3	6.5	2.8	4.0	8.1	11.4	11.7	13.2	12.0	10.5	9.0	10.8	12.0	12.9	14.7	13.5	10.9
6.6	3.5	3.6	1.7	.9	.8	.8	.9	1.0	1.0	4.3	5.2	2.2	1.7	2.7	1.6	.8	.8	.6	1.2	1.5	1.4	1.3	1.6	2.2	3.1	4.4	6.0	3.7	2.0	3.8	4.0	4.8	9.2	9.6	8.7
6.1	8.3	6.9	7.4	7.0	5.6	5.6	4.1	2.8	3.0	2.1	3.8	5.5	4.2	3.6	2.5	1.6	1.9	1.1	.7	1.0	2.5	3.4	3.2	1.6	1.6	1.2	1.8	3.4	3.0	2.9	1.8	1.9	3.6	4.9	4.3
5.7	7.5	7.0	7.6	7.6	8.0	8.2	7.7	7.6	7.5	7.1	6.8	8.4	7.8	7.9	6.1	5.2	5.2	3.7	2.6	3.4	3.5	4.3	4.7	4.6	5.0	4.6	4.5	4.1	3.7	3.4	3.2	3.6	5.0	6.0	5.0
4.9	6.2	6.0	5.1	4.5	4.8	5.7	6.3	7.0	6.9	6.5	6.3	6.6	6.7	6.9	6.6	6.6	6.9	6.5	6.1	6.3	5.5	5.7	5.7	5.5	6.6	6.3	6.6	6.2	5.9	5.1	4.7	4.2	4.0	4.8	5.0
4.6	5.5	5.5	5.1	4.2	4.0	3.6	3.8	4.4	4.9	5.1	5.1	4.6	4.6	4.9	4.8	4.8	5.5	4.9	5.0	5.1	5.1	4.6	4.9	4.7	5.3	5.3	5.6	5.6	5.7	6.0	5.5	5.0	4.7	4.1	3.9
3.6	4.6	4.6	4.7	4.3	4.1	3.7	3.6	3.9	4.8	5.1	6.6	6.6	5.2	5.0	4.1	4.0	4.4	4.6	4.4	4.5	4.8	4.8	4.3	3.5	4.2	4.7	4.6	4.5	5.0	5.1	4.8	4.9	4.5	4.4	3.6
3.8	3.9	4.3	4.8	4.8	4.6	4.2	4.3	4.7	4.8	7.1	8.2	8.7	7.2	5.7	4.3	4.0	3.4	3.9	4.0	4.3	4.4	3.3	2.0	2.9	3.5	2.5	2.1	1.6	1.5	1.4	1.5	2.0	2.7	4.3	3.3
5.6	5.2	5.0	5.4	5.4	4.6	4.0	3.8	2.8	2.9	3.4	4.0	4.1	3.0	2.3	2.4	2.3	2.2	2.2	2.1	2.0	2.0	1.7	1.2	1.4	1.8	1.4	1.1	1.3	1.6	2.2	3.1	4.3	5.1	5.8	6.1

Figure 45. ATOVS MEAN O-B brightness temperature differences (deg C). JUNE 2006
Channel: HIRS11 (500 - 700 hPa)
NOAA16, using all observations



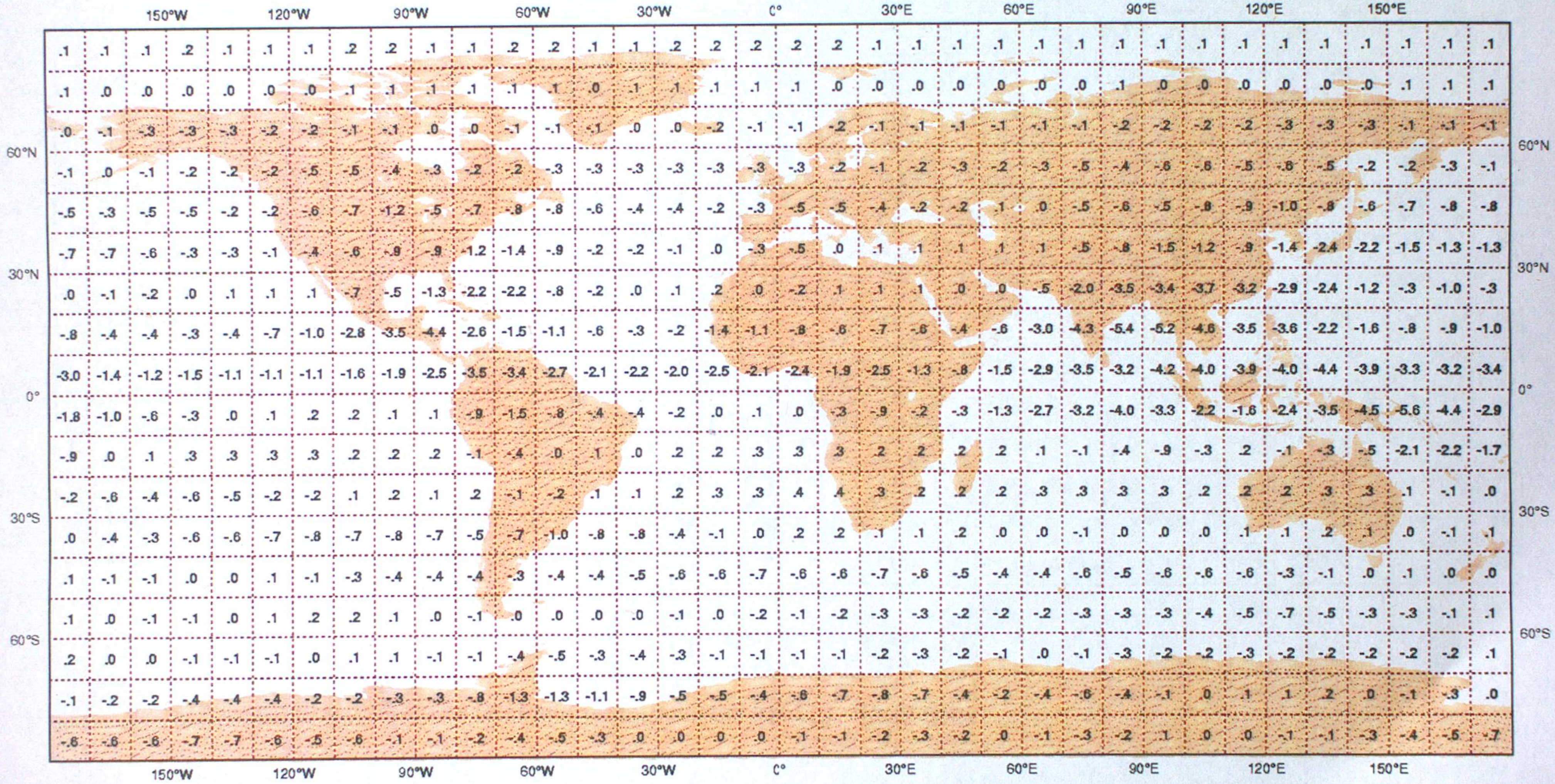
-1.7	-1.8	-1.8	-1.8	-2.0	-2.2	-2.2	-2.2	-2.3	-2.4	-2.5	-2.5	-2.4	-2.4	-2.0	-1.9	-1.7	-1.6	-1.4	-1.4	-1.5	-1.7	-2.0	-2.3	-2.3	-2.3	-2.5	-2.6	-2.5	-2.4	-2.3	-2.0	-1.8	-1.8	-2.0	-1.9
-1.9	-2.1	-2.2	-2.1	-1.9	-1.8	-2.1	-2.2	-2.5	-2.4	-2.1	-2.6	-3.0	-3.2	-2.7	-1.9	-1.7	-1.6	-1.7	-1.9	-2.1	-2.1	-2.2	-2.2	-2.0	-1.9	-1.8	-2.1	-2.6	-2.3	-2.2	-2.3	-1.8	-1.8	-1.8	-1.8
-2.0	-2.4	-3.6	-4.2	-3.7	-2.7	-2.5	-1.8	-2.0	-2.0	-2.2	-2.8	-3.0	-3.2	-2.3	-2.3	-2.8	-2.4	-2.3	-2.7	-2.3	-2.1	-1.9	-1.9	-1.7	-2.0	-2.2	-2.1	-2.6	-2.6	-2.7	-3.1	-3.1	-2.0	-2.5	-2.6
-1.7	-2.0	-2.7	-2.7	-2.3	-2.8	-3.5	-3.5	-3.1	-2.8	-2.9	-2.7	-2.7	-2.7	-2.5	-2.8	-2.3	-2.3	-2.4	-2.2	-1.7	-2.1	-2.3	-2.1	-2.7	-4.0	-3.5	-4.2	-4.5	-4.0	-4.7	-3.7	-1.8	-2.0	-2.4	-1.9
-3.0	-2.8	-3.5	-3.1	-1.6	-1.7	-3.7	-3.7	-5.0	-3.0	-4.1	-4.3	-3.6	-3.0	-2.2	-2.3	-1.3	-2.0	-3.1	-3.8	-3.1	-2.0	-1.4	.3	-.2	-3.3	-4.3	-3.9	-5.4	-5.4	-6.4	-4.8	-3.3	-3.8	-3.7	-4.2
-2.5	-3.0	-2.9	-1.5	-1.0	-.3	-3.1	-3.4	-3.3	-3.5	-4.6	-5.8	-3.5	-1.4	-1.2	-1.0	-.7	-2.3	-3.4	-.8	-.1	.1	.1	.5	.9	-2.3	-3.4	-5.4	-6.2	-5.0	-6.4	-8.5	-7.6	-5.3	-4.9	-4.4
-.4	-.9	-.9	-.2	.3	.3	-.2	-2.9	-1.9	-3.8	-7.2	-6.8	-2.9	-1.1	-.5	.1	.1	-2.2	-2.6	-1.1	-.5	-.6	-1.7	-.7	-1.6	-5.3	-8.4	-8.5	-9.2	-8.7	-8.6	-6.8	-3.8	-1.4	-3.5	-1.2
-2.5	-1.7	-1.5	-1.2	-1.2	-1.8	-2.9	-7.4	-9.2	-11.8	-6.9	-4.3	-3.1	-1.8	-1.3	-1.0	-5.2	-4.7	-3.6	-4.1	-1.4	.3	-.8	-1.4	-6.9	-10.4	-13.2	-13.1	-11.3	-8.9	-9.3	-6.1	-4.4	-2.4	-2.5	-2.5
-8.4	-4.4	-3.7	-4.2	-3.1	-3.1	-3.6	-4.9	-5.6	-7.5	-10.2	-10.3	-8.2	-6.0	-6.3	-6.1	-7.4	-5.5	-7.1	-6.0	-6.8	-2.4	-1.4	-3.7	-7.8	-9.3	-8.3	-11.3	-10.9	-11.3	-10.6	-11.4	-10.2	-8.7	-8.8	-9.1
-5.2	-3.3	-1.9	-1.3	-.4	-.2	.2	.2	.1	-.2	-2.9	-5.3	-3.5	-3.1	-1.9	-.9	-.2	-.2	-.2	-1.7	-3.2	-.2	-.8	-4.0	-7.7	-8.9	-10.9	-8.9	-6.4	-4.9	-7.1	-10.1	-12.3	-14.8	-11.6	-7.9
-3.0	-.4	-.2	.4	.5	.4	.4	.2	.2	.0	-1.0	-.9	-.9	-.9	-.8	.0	.2	.3	.5	-.3	-1.2	-.7	.3	.5	-.1	-.6	-1.3	-2.6	-1.4	-.2	-.7	-1.6	-2.0	-5.9	-6.2	-5.0
-2.3	-3.6	-3.0	-3.6	-2.7	-1.8	-1.7	-.9	-.5	-.4	.0	-.8	-1.5	-.5	-.6	-.3	.2	.1	.3	.3	.3	.3	-.4	-.4	.2	.2	.3	.0	-.7	-.3	-.6	-.1	-.4	-.9	-1.3	-1.1
-2.5	-3.9	-3.6	-4.6	-4.7	-5.5	-5.9	-5.6	-5.6	-5.3	-4.7	-5.1	-6.4	-5.2	-5.3	-3.6	-2.2	-2.1	-1.1	-.5	-.7	-1.0	-1.4	-1.8	-1.8	-2.1	-1.7	-1.9	-1.6	-1.2	-1.1	-1.0	-1.6	-1.9	-2.4	-2.1
-2.2	-3.2	-3.4	-2.7	-2.8	-2.8	-3.7	-4.7	-5.7	-5.8	-5.5	-4.8	-4.6	-4.8	-5.6	-6.2	-5.8	-6.0	-5.7	-5.2	-5.3	-5.0	-5.1	-4.9	-4.5	-5.5	-5.5	-5.8	-5.5	-5.5	-4.2	-3.0	-2.4	-1.9	-2.6	-2.6
-3.5	-4.2	-4.3	-4.2	-3.9	-3.8	-2.8	-2.9	-3.8	-4.2	-4.4	-4.0	-3.9	-4.2	-4.7	-5.0	-4.9	-5.8	-5.1	-5.7	-6.2	-5.9	-5.0	-5.2	-5.3	-5.5	-6.0	-5.6	-6.5	-6.8	-7.1	-5.8	-5.4	-5.0	-4.2	-3.2
-5.0	-5.7	-5.8	-6.1	-5.5	-5.7	-4.8	-4.2	-4.3	-5.0	-5.3	-6.2	-6.5	-6.0	-5.8	-5.8	-5.4	-5.4	-5.5	-5.4	-5.7	-6.7	-5.6	-4.4	-4.2	-5.2	-5.9	-5.6	-5.4	-5.8	-5.6	-5.0	-5.4	-5.9	-6.4	-5.0
-5.8	-6.3	-7.2	-7.7	-6.9	-6.6	-6.1	-5.6	-5.6	-4.9	-7.5	-8.3	-9.1	-8.1	-7.7	-6.4	-5.4	-4.4	-4.9	-4.8	-5.0	-3.9	-2.9	-1.8	-2.5	-3.5	-3.3	-2.1	-3.1	-2.9	-2.5	-1.5	-2.3	-2.9	-5.3	-5.1
-7.0	-6.9	-7.0	-6.7	-6.1	-5.5	-5.0	-4.9	-2.7	-1.7	-2.8	-4.3	-4.4	-2.9	-2.1	-2.1	-2.4	-2.7	-2.9	-2.4	-2.3	-2.4	-2.4	-1.8	-2.2	-2.2	-2.1	-2.0	-2.5	-2.6	-2.6	-2.0	-2.8	-2.8	-5.4	-7.3

Figure 46. ATOVS SD O-B brightness temperature differences (deg C). JUNE 2006
Channel: HIRS11 (500 - 700 hPa)
NOAA16, using all observations



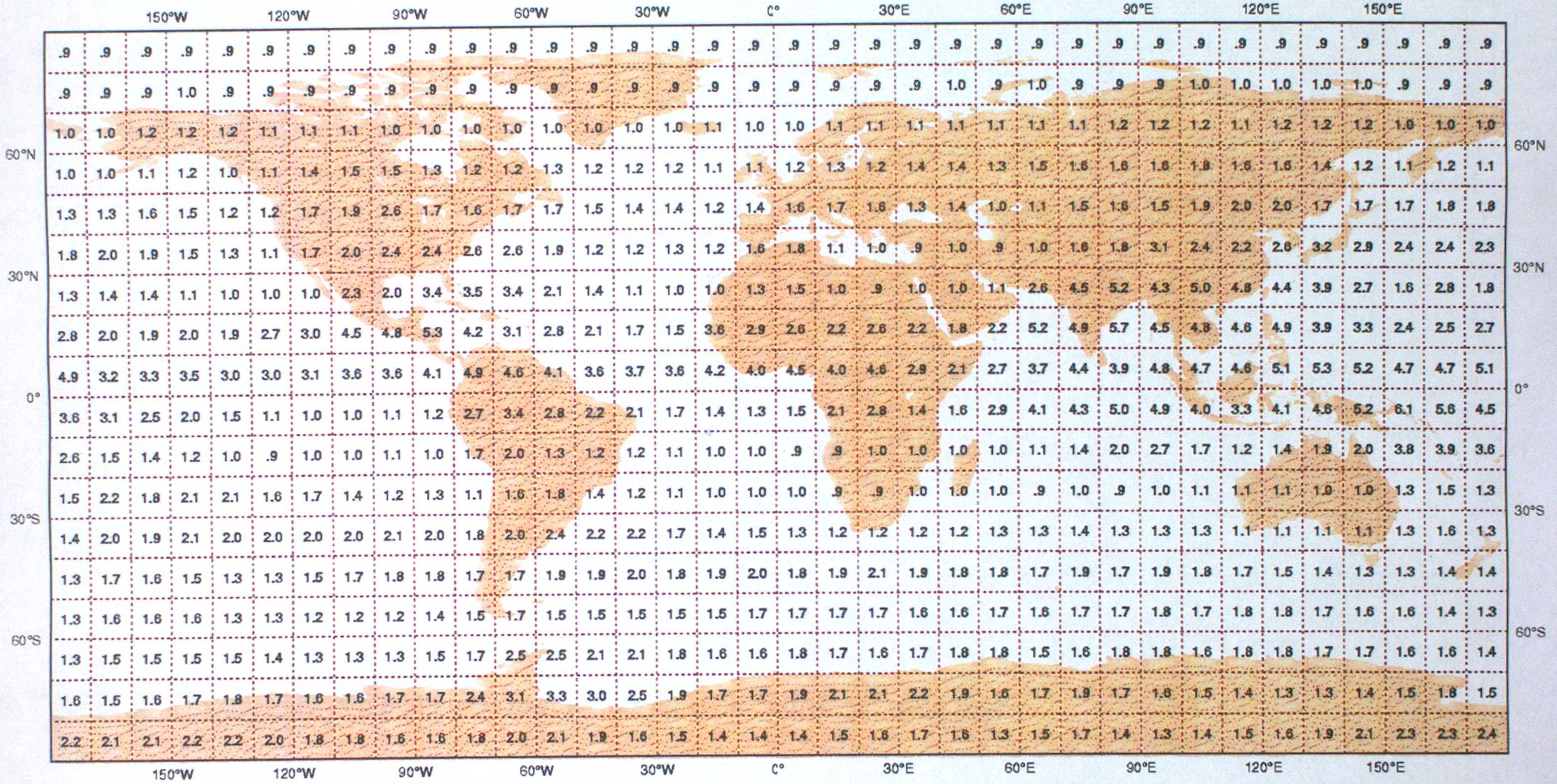
2.6	2.6	2.5	2.4	2.5	2.3	2.2	2.0	2.1	2.3	2.4	2.6	2.4	2.4	2.3	2.2	2.1	2.0	2.0	2.0	2.1	2.3	2.6	2.8	2.7	2.8	2.8	2.8	2.8	2.6	2.7	2.7	2.7	2.7	2.9	2.7
3.2	3.2	3.3	3.3	3.3	3.0	3.0	3.0	3.0	3.0	2.8	2.9	2.7	2.6	2.2	2.6	2.6	2.7	2.6	2.7	3.1	3.5	3.6	3.4	3.5	3.3	2.9	3.2	3.8	3.5	3.6	3.9	3.6	3.3	3.1	3.3
3.7	4.1	4.9	5.1	4.9	4.5	4.9	4.0	3.7	3.5	3.4	3.9	3.8	3.9	3.6	3.9	4.4	3.9	3.8	4.2	4.3	4.0	4.2	4.6	4.6	4.7	5.2	4.8	5.0	4.9	5.2	5.2	5.1	4.0	4.1	4.0
3.5	3.6	4.3	4.2	4.1	4.7	6.0	6.2	6.0	5.3	4.8	4.6	5.0	5.0	4.6	4.9	4.4	4.1	4.4	4.7	4.7	6.3	6.4	5.7	6.6	7.6	7.3	7.3	7.7	7.4	7.5	6.0	4.4	4.0	4.5	3.8
4.9	4.7	6.1	5.3	3.9	4.6	7.2	7.7	9.7	6.3	6.1	6.8	6.2	5.5	5.1	5.4	4.1	5.2	6.6	6.9	7.3	6.0	6.3	3.8	4.3	7.3	7.3	6.6	8.1	8.3	8.5	7.0	6.2	6.5	6.4	6.6
5.7	6.7	6.3	4.6	4.2	3.3	6.6	7.8	8.2	8.0	9.2	9.1	6.5	4.0	4.1	4.4	4.1	6.5	7.4	4.0	2.7	2.5	3.3	3.4	3.6	7.0	6.4	9.0	7.2	8.0	8.8	10.0	9.1	7.7	8.4	7.4
3.7	4.5	4.1	2.7	2.0	2.1	2.9	7.6	6.2	9.8	11.1	10.5	6.7	4.4	3.2	2.4	1.8	4.7	5.4	3.4	2.7	2.8	2.9	3.6	6.3	10.8	13.0	11.4	12.6	12.3	11.9	10.7	7.6	4.5	8.8	5.4
7.5	5.8	5.4	5.6	5.6	7.6	8.4	12.3	13.2	14.4	11.6	9.2	8.1	5.7	4.4	3.8	10.1	8.4	7.7	6.6	7.9	6.8	5.1	5.8	12.8	12.4	14.5	12.0	12.5	12.1	12.8	10.5	9.0	6.9	7.0	7.0
13.2	9.8	9.7	10.5	9.0	8.5	8.8	10.1	10.3	11.7	13.8	13.4	12.1	10.9	11.3	10.8	12.3	11.1	12.7	11.8	13.3	8.7	5.5	8.0	10.9	12.0	10.4	12.8	12.5	12.5	13.5	14.2	14.1	12.8	12.8	13.8
10.3	9.2	7.4	6.1	4.2	2.4	1.5	1.7	2.3	2.9	8.4	10.3	8.4	6.3	6.1	4.7	3.0	2.9	3.1	6.2	7.9	3.5	4.8	8.8	11.9	12.2	13.8	13.2	11.1	9.3	11.1	13.0	13.9	16.1	14.8	12.4
7.7	4.3	4.4	2.7	1.6	1.5	1.3	1.3	1.6	1.8	5.0	6.1	3.3	2.7	3.1	2.1	1.3	1.3	1.3	2.0	2.4	2.2	1.8	2.0	2.5	3.3	5.1	6.9	4.2	2.5	3.5	4.8	5.2	10.1	10.6	9.8
5.8	7.9	6.8	7.5	7.3	6.1	6.0	4.8	3.6	3.8	2.8	4.9	6.4	4.7	4.1	3.0	2.1	2.1	1.7	1.6	2.0	2.9	3.3	2.9	1.8	1.8	1.3	2.3	3.6	3.1	3.2	2.4	2.3	3.8	4.4	3.8
6.8	8.8	8.0	8.4	8.3	8.6	8.7	8.6	8.4	8.2	7.9	8.3	9.7	9.1	9.0	7.0	5.8	5.7	4.4	3.4	4.5	4.4	4.8	5.2	5.1	5.6	5.3	5.3	5.0	4.5	4.2	4.0	4.1	5.7	6.5	5.9
5.8	7.6	7.0	6.1	5.7	5.8	6.8	7.7	8.4	8.4	7.8	7.8	7.7	8.1	8.2	8.0	7.9	8.3	7.9	7.6	7.8	7.1	7.4	7.3	7.1	8.2	7.6	8.2	7.8	7.6	6.3	5.7	5.4	5.1	5.9	6.3
5.8	7.2	6.9	6.5	5.4	5.1	4.6	4.9	5.6	6.1	6.5	6.7	5.8	6.2	6.6	6.6	6.4	7.3	6.7	6.6	6.7	7.0	6.2	6.4	6.4	7.1	7.2	7.4	7.3	7.4	7.7	7.0	6.5	6.2	5.7	5.3
5.2	6.6	6.4	6.5	6.0	5.7	5.2	5.1	5.3	6.0	6.4	9.4	9.0	7.2	6.9	5.8	5.5	6.0	6.3	6.1	6.3	6.9	7.1	6.6	5.4	6.1	6.7	6.6	6.3	6.9	6.8	6.4	6.5	6.1	5.9	5.0
5.5	5.9	6.5	7.1	7.2	6.9	6.4	6.3	6.7	6.5	9.2	11.3	11.5	9.5	7.7	6.3	6.6	5.6	6.3	6.8	7.2	7.2	5.5	3.9	5.1	5.7	4.5	4.1	3.6	3.3	3.4	3.5	4.0	4.8	6.9	4.8
8.0	7.5	7.4	8.3	8.2	7.3	6.5	6.2	5.0	5.1	5.7	6.3	6.3	4.9	4.2	4.4	4.1	3.8	4.0	4.1	4.2	4.0	3.7	3.1	3.2	3.4	3.5	3.3	3.3	3.6	4.3	5.5	7.1	8.2	9.0	8.9

Figure 47. ATOVS MEAN O-B brightness temperature differences (deg C). JUNE 2006
Channel: HIRS4 (400 hPa)
NOAA16, using all observations



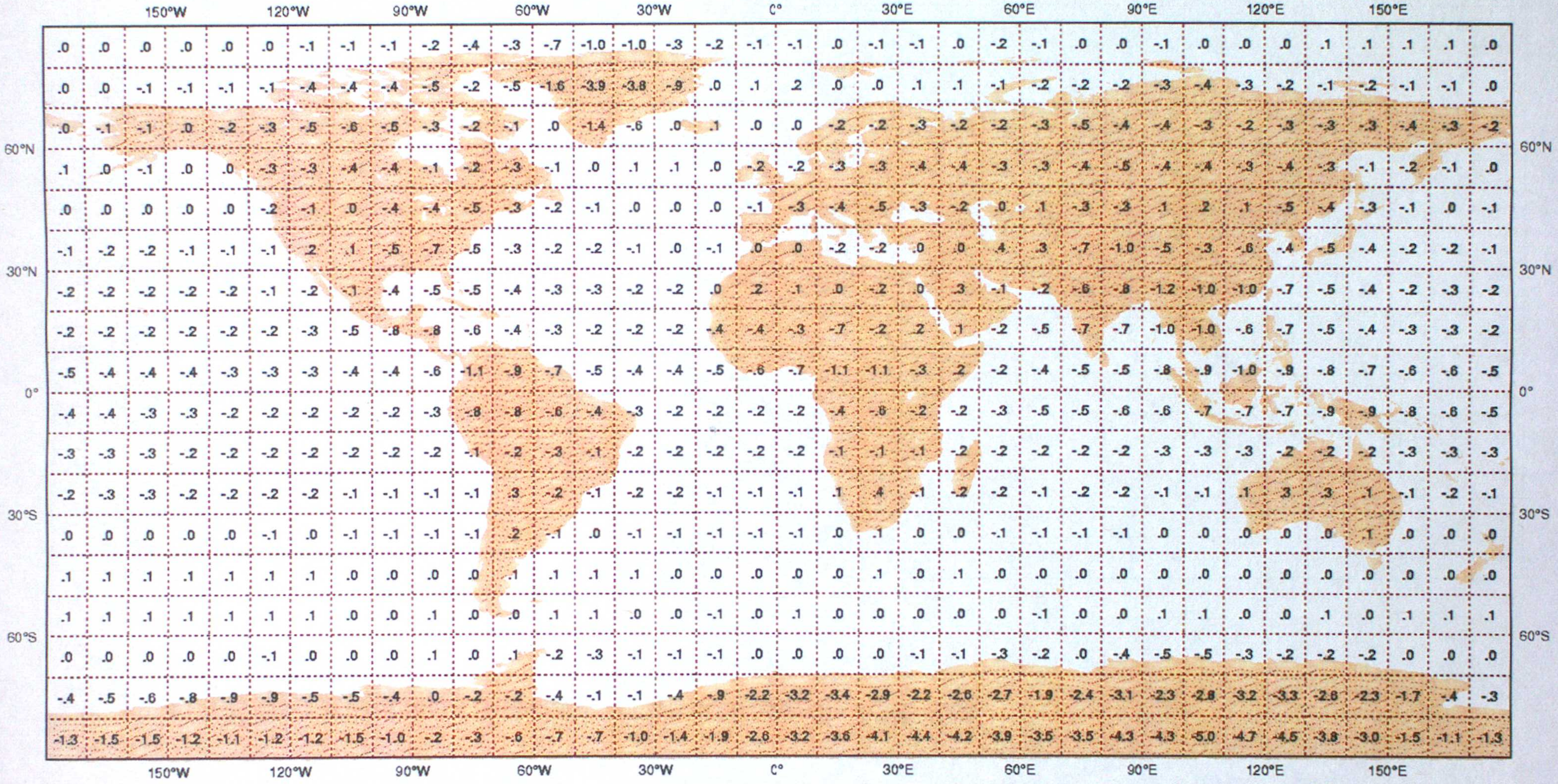
.1	.1	.1	.2	.1	.1	.1	.2	.2	.1	.1	.2	.2	.1	.1	.2	.2	.2	.2	.2	.1	.1	.1	.1	.1	.1	.1	.1	.1	.1	.1	.1	.1	.1	.1	.1
.1	.0	.0	.0	.0	.0	.0	.1	.1	.1	.1	.1	.1	.0	.1	.1	.1	.1	.1	.0	.0	.0	.0	.0	.0	.0	.1	.0	.0	.0	.0	.0	.0	.1	.1	.1
.0	-.1	-.3	-.3	-.3	-.2	-.2	-.1	-.1	.0	.0	-.1	-.1	-.1	.0	.0	-.2	-.1	-.1	-.2	-.1	-.1	-.1	-.1	-.1	-.1	-.2	-.2	-.2	-.2	-.3	-.3	-.3	-.1	-.1	-.1
-.1	.0	-.1	-.2	-.2	-.2	-.5	-.5	-.4	-.3	-.2	-.2	-.3	-.3	-.3	-.3	-.3	-.3	-.3	-.2	-.1	-.2	-.3	-.2	-.3	-.5	-.4	-.6	-.6	-.5	-.8	-.5	-.2	-.2	-.3	-.1
-.5	-.3	-.5	-.5	-.2	-.2	-.6	-.7	-1.2	-.5	-.7	-.8	-.8	-.6	-.4	-.4	-.2	-.3	-.5	-.5	-.4	-.2	-.2	.1	.0	-.5	-.6	-.5	-.8	-.9	-1.0	-.8	-.6	-.7	-.8	-.8
-.7	-.7	-.6	-.3	-.3	-.1	-.4	-.6	-.9	-.9	-1.2	-1.4	-.9	-.2	-.2	-.1	.0	-.3	-.5	.0	.1	.1	.1	.1	.1	-.5	-.8	-1.5	-1.2	-.9	-1.4	-2.4	-2.2	-1.5	-1.3	-1.3
.0	-.1	-.2	.0	.1	.1	.1	-.7	-.5	-1.3	-2.2	-2.2	-.8	-.2	.0	.1	.2	.0	-.2	.1	.1	.1	.0	.0	-.5	-2.0	-3.5	-3.4	-3.7	-3.2	-2.9	-2.4	-1.2	-.3	-1.0	-.3
-.8	-.4	-.4	-.3	-.4	-.7	-1.0	-2.8	-3.5	-4.4	-2.6	-1.5	-1.1	-.6	-.3	-.2	-1.4	-1.1	-.8	-.6	-.7	-.6	-.4	-.6	-3.0	-4.3	-5.4	-5.2	-4.6	-3.5	-3.6	-2.2	-1.6	-.8	-.9	-1.0
-3.0	-1.4	-1.2	-1.5	-1.1	-1.1	-1.1	-1.6	-1.9	-2.5	-3.5	-3.4	-2.7	-2.1	-2.2	-2.0	-2.5	-2.1	-2.4	-1.9	-2.5	-1.3	-.8	-1.5	-2.9	-3.5	-3.2	-4.2	-4.0	-3.9	-4.0	-4.4	-3.9	-3.3	-3.2	-3.4
-1.8	-1.0	-.6	-.3	.0	.1	.2	.2	.1	.1	-.9	-1.5	-.8	-.4	-.4	-.2	.0	.1	.0	-.3	-.9	-.2	-.3	-1.3	-2.7	-3.2	-4.0	-3.3	-2.2	-1.6	-2.4	-3.5	-4.5	-5.6	-4.4	-2.9
-.9	.0	.1	.3	.3	.3	.3	.2	.2	.2	-.1	-.4	.0	.1	.0	.2	.2	.3	.3	.3	.2	.2	.2	.2	.1	-.1	-.4	-.9	-.3	.2	-.1	-.3	-.5	-2.1	-2.2	-1.7
-.2	-.6	-.4	-.6	-.5	-.2	-.2	.1	.2	.1	.2	-.1	-.2	.1	.1	.2	.3	.3	.4	.4	.3	.2	.2	.2	.3	.3	.3	.3	.2	.2	.2	.3	.3	.1	-.1	.0
.0	-.4	-.3	-.6	-.6	-.7	-.8	-.7	-.8	-.7	-.5	-.7	-1.0	-.8	-.8	-.4	-.1	.0	.2	.2	.1	.1	.2	.0	.0	-.1	.0	.0	.0	.1	.1	.2	.1	.0	-.1	.1
.1	-.1	-.1	.0	.0	.1	-.1	-.3	-.4	-.4	-.4	-.3	-.4	-.4	-.5	-.6	-.6	-.7	-.6	-.6	-.7	-.6	-.5	-.4	-.4	-.6	-.5	-.6	-.6	-.6	-.3	-.1	.0	.1	.0	.0
.1	.0	-.1	-.1	.0	.1	.2	.2	.1	.0	-.1	.0	.0	.0	.0	-.1	.0	-.2	-.1	-.2	-.3	-.3	-.2	-.2	-.2	-.3	-.3	-.3	-.4	-.5	-.7	-.5	-.3	-.3	-.1	.1
.2	.0	.0	-.1	-.1	-.1	.0	.1	.1	-.1	-.1	-.4	-.5	-.3	-.4	-.3	-.1	-.1	-.1	-.1	-.2	-.3	-.2	-.1	.0	-.1	-.3	-.2	-.2	-.3	-.2	-.2	-.2	-.2	-.2	.1
-.1	-.2	-.2	-.4	-.4	-.4	-.2	-.2	-.3	-.3	-.8	-1.3	-1.3	-1.1	-.9	-.5	-.5	-.4	-.6	-.7	-.8	-.7	-.4	-.2	-.4	-.6	-.4	-.1	.0	.1	.1	.2	.0	-.1	-.3	.0
-.6	-.6	-.6	-.7	-.7	-.6	-.5	-.6	-.1	-.1	-.2	-.4	-.5	-.3	.0	.0	.0	.0	-.1	-.1	-.2	-.3	-.2	.0	-.1	-.3	-.2	.1	.0	.0	-.1	-.1	-.3	-.4	-.5	-.7

Figure 48. ATOVS SD O-B brightness temperature differences (deg C). JUNE 2006
Channel: HIRS4 (400 hPa)
NOAA16, using all observations



.9	.9	.9	.9	.9	.9	.9	.9	.9	.9	.9	.9	.9	.9	.9	.9	.9	.9	.9	.9	.9	.9	.9	.9	.9	.9	.9	.9	.9	.9	.9	.9	.9	.9	.9	.9
.9	.9	.9	1.0	.9	.9	.9	.9	.9	.9	.9	.9	.9	.9	.9	.9	.9	.9	.9	.9	.9	.9	1.0	.9	1.0	.9	.9	.9	1.0	1.0	1.0	1.0	1.0	.9	.9	.9
1.0	1.0	1.2	1.2	1.2	1.1	1.1	1.1	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.1	1.0	1.0	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.2	1.2	1.2	1.1	1.2	1.2	1.2	1.0	1.0	1.0
1.0	1.0	1.1	1.2	1.0	1.1	1.4	1.5	1.5	1.3	1.2	1.2	1.3	1.2	1.2	1.2	1.1	1.1	1.2	1.3	1.2	1.4	1.4	1.3	1.5	1.6	1.6	1.6	1.8	1.6	1.6	1.4	1.2	1.1	1.2	1.1
1.3	1.3	1.6	1.5	1.2	1.2	1.7	1.9	2.6	1.7	1.6	1.7	1.7	1.5	1.4	1.4	1.2	1.4	1.6	1.7	1.6	1.3	1.4	1.0	1.1	1.5	1.6	1.5	1.9	2.0	2.0	1.7	1.7	1.7	1.8	1.8
1.8	2.0	1.9	1.5	1.3	1.1	1.7	2.0	2.4	2.4	2.6	2.6	1.9	1.2	1.2	1.3	1.2	1.6	1.8	1.1	1.0	.9	1.0	.9	1.0	1.6	1.8	3.1	2.4	2.2	2.6	3.2	2.9	2.4	2.4	2.3
1.3	1.4	1.4	1.1	1.0	1.0	1.0	2.3	2.0	3.4	3.5	3.4	2.1	1.4	1.1	1.0	1.0	1.3	1.5	1.0	.9	1.0	1.0	1.1	2.6	4.5	5.2	4.3	5.0	4.8	4.4	3.9	2.7	1.6	2.8	1.8
2.8	2.0	1.9	2.0	1.9	2.7	3.0	4.5	4.8	5.3	4.2	3.1	2.8	2.1	1.7	1.5	3.6	2.9	2.6	2.2	2.6	2.2	1.8	2.2	5.2	4.9	5.7	4.5	4.8	4.6	4.9	3.9	3.3	2.4	2.5	2.7
4.9	3.2	3.3	3.5	3.0	3.0	3.1	3.6	3.6	4.1	4.9	4.6	4.1	3.6	3.7	3.6	4.2	4.0	4.5	4.0	4.6	2.9	2.1	2.7	3.7	4.4	3.9	4.8	4.7	4.6	5.1	5.3	5.2	4.7	4.7	5.1
3.6	3.1	2.5	2.0	1.5	1.1	1.0	1.0	1.1	1.2	2.7	3.4	2.8	2.2	2.1	1.7	1.4	1.3	1.5	2.1	2.8	1.4	1.6	2.9	4.1	4.3	5.0	4.9	4.0	3.3	4.1	4.6	5.2	6.1	5.6	4.5
2.6	1.5	1.4	1.2	1.0	.9	1.0	1.0	1.1	1.0	1.7	2.0	1.3	1.2	1.2	1.1	1.0	1.0	.9	.9	1.0	1.0	1.0	1.0	1.1	1.4	2.0	2.7	1.7	1.2	1.4	1.9	2.0	3.8	3.9	3.6
1.5	2.2	1.8	2.1	2.1	1.6	1.7	1.4	1.2	1.3	1.1	1.6	1.8	1.4	1.2	1.1	1.0	1.0	1.0	.9	.9	1.0	1.0	1.0	.9	1.0	.9	1.0	1.1	1.1	1.1	1.0	1.0	1.3	1.5	1.3
1.4	2.0	1.9	2.1	2.0	2.0	2.0	2.0	2.1	2.0	1.8	2.0	2.4	2.2	2.2	1.7	1.4	1.5	1.3	1.2	1.2	1.2	1.2	1.3	1.3	1.4	1.3	1.3	1.3	1.1	1.1	1.1	1.1	1.3	1.6	1.3
1.3	1.7	1.6	1.5	1.3	1.3	1.5	1.7	1.8	1.8	1.7	1.7	1.9	1.9	2.0	1.8	1.9	2.0	1.8	1.9	2.1	1.9	1.8	1.8	1.7	1.9	1.7	1.9	1.8	1.7	1.5	1.4	1.3	1.3	1.4	1.4
1.3	1.6	1.6	1.6	1.3	1.3	1.2	1.2	1.2	1.4	1.5	1.7	1.5	1.5	1.5	1.5	1.5	1.7	1.7	1.7	1.7	1.6	1.6	1.7	1.6	1.7	1.7	1.8	1.7	1.8	1.8	1.7	1.6	1.6	1.4	1.3
1.3	1.5	1.5	1.5	1.5	1.4	1.3	1.3	1.3	1.5	1.7	2.5	2.5	2.1	2.1	1.8	1.6	1.6	1.8	1.7	1.6	1.7	1.8	1.8	1.5	1.6	1.8	1.8	1.6	1.8	1.8	1.7	1.7	1.6	1.6	1.4
1.6	1.5	1.6	1.7	1.8	1.7	1.6	1.6	1.7	1.7	2.4	3.1	3.3	3.0	2.5	1.9	1.7	1.7	1.9	2.1	2.1	2.2	1.9	1.6	1.7	1.9	1.7	1.6	1.5	1.4	1.3	1.3	1.4	1.5	1.8	1.5
2.2	2.1	2.1	2.2	2.2	2.0	1.8	1.8	1.6	1.6	1.8	2.0	2.1	1.9	1.6	1.5	1.4	1.4	1.4	1.5	1.6	1.7	1.6	1.3	1.5	1.7	1.4	1.3	1.4	1.5	1.6	1.9	2.1	2.3	2.3	2.4

Figure 49. ATOVS MEAN O-B brightness temperature differences (deg C). JUNE 2006
Channel: AMSUA-5 (700 hPa)
NOAA16, using all observations



.0	.0	.0	.0	.0	.0	-.1	-.1	-.1	-.2	-.4	-.3	-.7	-1.0	-1.0	-.3	-.2	-.1	-.1	.0	-.1	-.1	.0	-.2	-.1	.0	.0	-.1	.0	.0	.0	.1	.1	.1	.1	.0
.0	.0	-.1	-.1	-.1	-.1	-.4	-.4	-.4	-.5	-.2	-.5	-1.6	-3.9	-3.8	-.9	.0	.1	.2	.0	.0	.1	.1	-.1	-.2	-.2	-.2	-.3	-.4	-.3	-.2	-.1	-.2	-.1	-.1	.0
.0	-.1	-.1	.0	-.2	-.3	-.5	-.6	-.5	-.3	-.2	-.1	.0	-1.4	-.6	.0	.1	.0	.0	-.2	-.2	-.3	-.2	-.2	-.3	-.5	-.4	-.4	-.3	-.2	-.3	-.3	-.3	-.4	-.3	-.2
.1	.0	-.1	.0	.0	-.3	-.3	-.4	-.4	-.1	-.2	-.3	-.1	.0	.1	.1	.0	-.2	-.2	-.3	-.3	-.4	-.4	-.3	-.3	-.4	-.5	-.4	-.4	-.3	-.4	-.3	-.1	-.2	-.1	.0
.0	.0	.0	.0	.0	-.2	-.1	.0	-.4	-.4	-.5	-.3	-.2	-.1	.0	.0	.0	-.1	-.3	-.4	-.5	-.3	-.2	.0	.1	-.3	-.3	.1	.2	.1	-.5	-.4	-.3	-.1	.0	-.1
-.1	-.2	-.2	-.1	-.1	-.1	.2	.1	-.5	-.7	-.5	-.3	-.2	-.2	-.1	.0	-.1	.0	.0	-.2	-.2	.0	.0	.4	.3	-.7	-1.0	-.5	-.3	-.6	-.4	-.5	-.4	-.2	-.2	-.1
-.2	-.2	-.2	-.2	-.2	-.1	-.2	-.1	-.4	-.5	-.5	-.4	-.3	-.3	-.2	-.2	.0	.2	.1	.0	-.2	.0	.3	-.1	-.2	-.6	-.8	-1.2	-1.0	-1.0	-.7	-.5	-.4	-.2	-.3	-.2
-.2	-.2	-.2	-.2	-.2	-.2	-.3	-.5	-.8	-.8	-.6	-.4	-.3	-.2	-.2	-.2	-.4	-.4	-.3	-.7	-.2	.2	.1	-.2	-.5	-.7	-.7	-1.0	-1.0	-.6	-.7	-.5	-.4	-.3	-.3	-.2
-.5	-.4	-.4	-.4	-.3	-.3	-.3	-.4	-.4	-.6	-1.1	-.9	-.7	-.5	-.4	-.4	-.5	-.6	-.7	-1.1	-1.1	-.3	.2	-.2	-.4	-.5	-.5	-.8	-.9	-1.0	-.9	-.8	-.7	-.6	-.6	-.5
-.4	-.4	-.3	-.3	-.2	-.2	-.2	-.2	-.2	-.3	-.8	-.8	-.6	-.4	-.3	-.2	-.2	-.2	-.2	-.4	-.6	-.2	-.2	-.3	-.5	-.5	-.6	-.6	-.7	-.7	-.7	-.9	-.9	-.8	-.6	-.5
-.3	-.3	-.3	-.2	-.2	-.2	-.2	-.2	-.2	-.2	-.1	-.2	-.3	-.1	-.2	-.2	-.2	-.2	-.2	-.1	-.1	-.1	-.2	-.2	-.2	-.2	-.2	-.3	-.3	-.3	-.2	-.2	-.2	-.3	-.3	-.3
-.2	-.3	-.3	-.2	-.2	-.2	-.2	-.1	-.1	-.1	-.1	.3	-.2	-.1	-.2	-.2	-.1	-.1	-.1	.1	.4	-.1	-.2	-.2	-.1	-.2	-.2	-.1	-.1	.1	.3	.3	.1	-.1	-.2	-.1
.0	.0	.0	.0	.0	-.1	.0	-.1	-.1	-.1	-.1	.2	-.1	.0	-.1	-.1	-.1	-.1	-.1	.0	.1	.0	.0	-.1	-.1	-.1	-.1	.0	.0	.0	.0	.0	.1	.0	.0	.0
.1	.1	.1	.1	.1	.1	.1	.0	.0	.0	.0	.1	.1	.1	.1	.0	.0	.0	.0	.0	.1	.0	.1	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
.1	.1	.1	.1	.1	.1	.1	.0	.0	.1	.0	.0	.1	.1	.0	.0	-.1	.0	.1	.0	.0	.0	.0	.0	-.1	.0	.0	.1	.1	.0	.0	.1	.0	.1	.1	.1
.0	.0	.0	.0	.0	-.1	.0	.0	.0	.1	.0	.1	-.2	-.3	-.1	-.1	-.1	.0	.0	.0	.0	-.1	-.1	-.3	-.2	.0	-.4	-.5	-.5	-.3	-.2	-.2	-.2	.0	.0	.0
-.4	-.5	-.6	-.8	-.9	-.9	-.5	-.5	-.4	.0	-.2	-.2	-.4	-.1	-.1	-.4	-.9	-2.2	-3.2	-3.4	-2.9	-2.2	-2.6	-2.7	-1.9	-2.4	-3.1	-2.3	-2.8	-3.2	-3.3	-2.8	-2.3	-1.7	-.4	-.3
-1.3	-1.5	-1.5	-1.2	-1.1	-1.2	-1.2	-1.5	-1.0	-.2	-.3	-.6	-.7	-.7	-1.0	-1.4	-1.9	-2.6	-3.2	-3.6	-4.1	-4.4	-4.2	-3.9	-3.5	-3.5	-4.3	-4.3	-5.0	-4.7	-4.5	-3.8	-3.0	-1.5	-1.1	-1.3

Figure 50. ATOVS SD O-B brightness temperature differences (deg C). JUNE 2006
Channel: AMSUA-5 (700 hPa)
NOAA16, using all observations

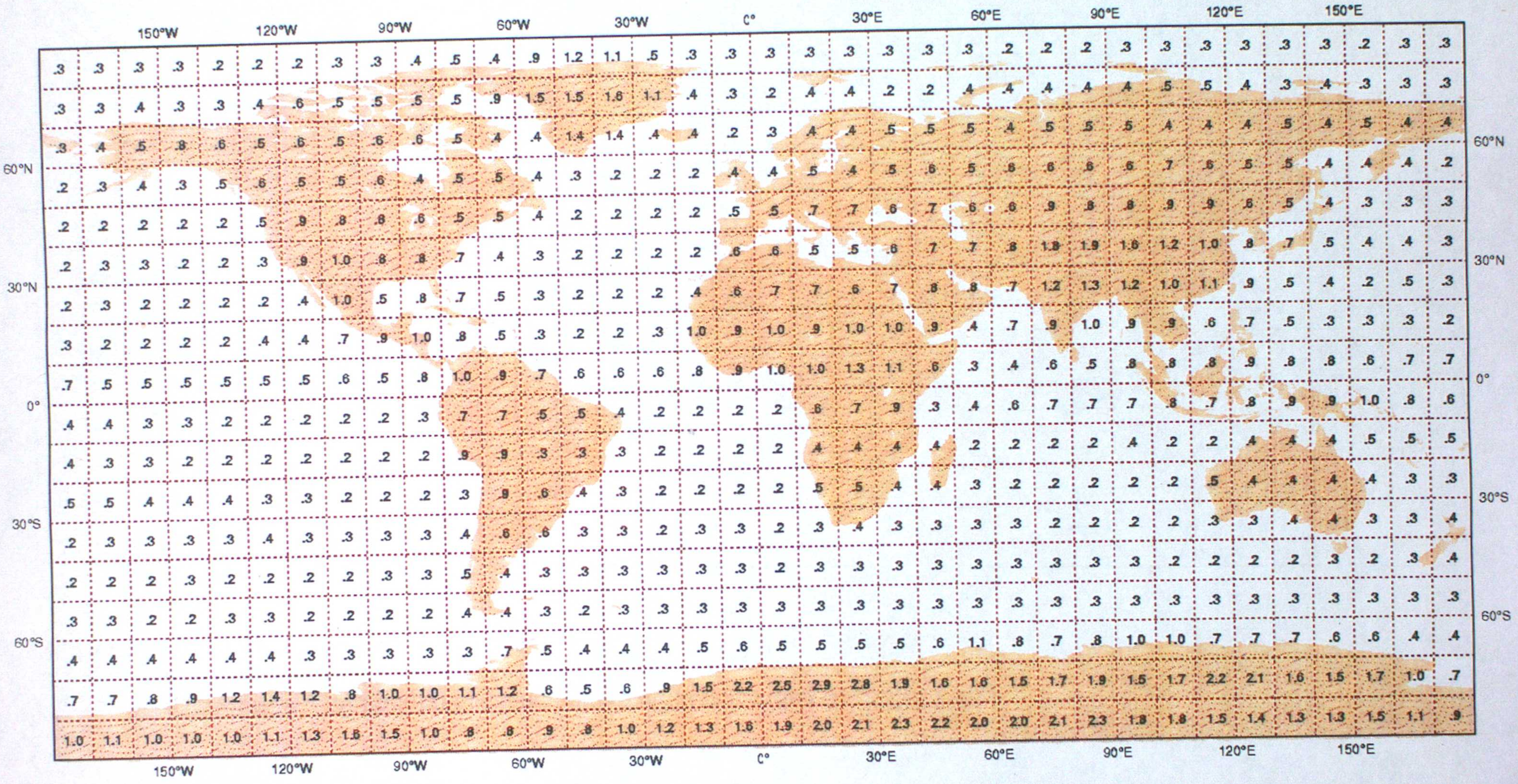
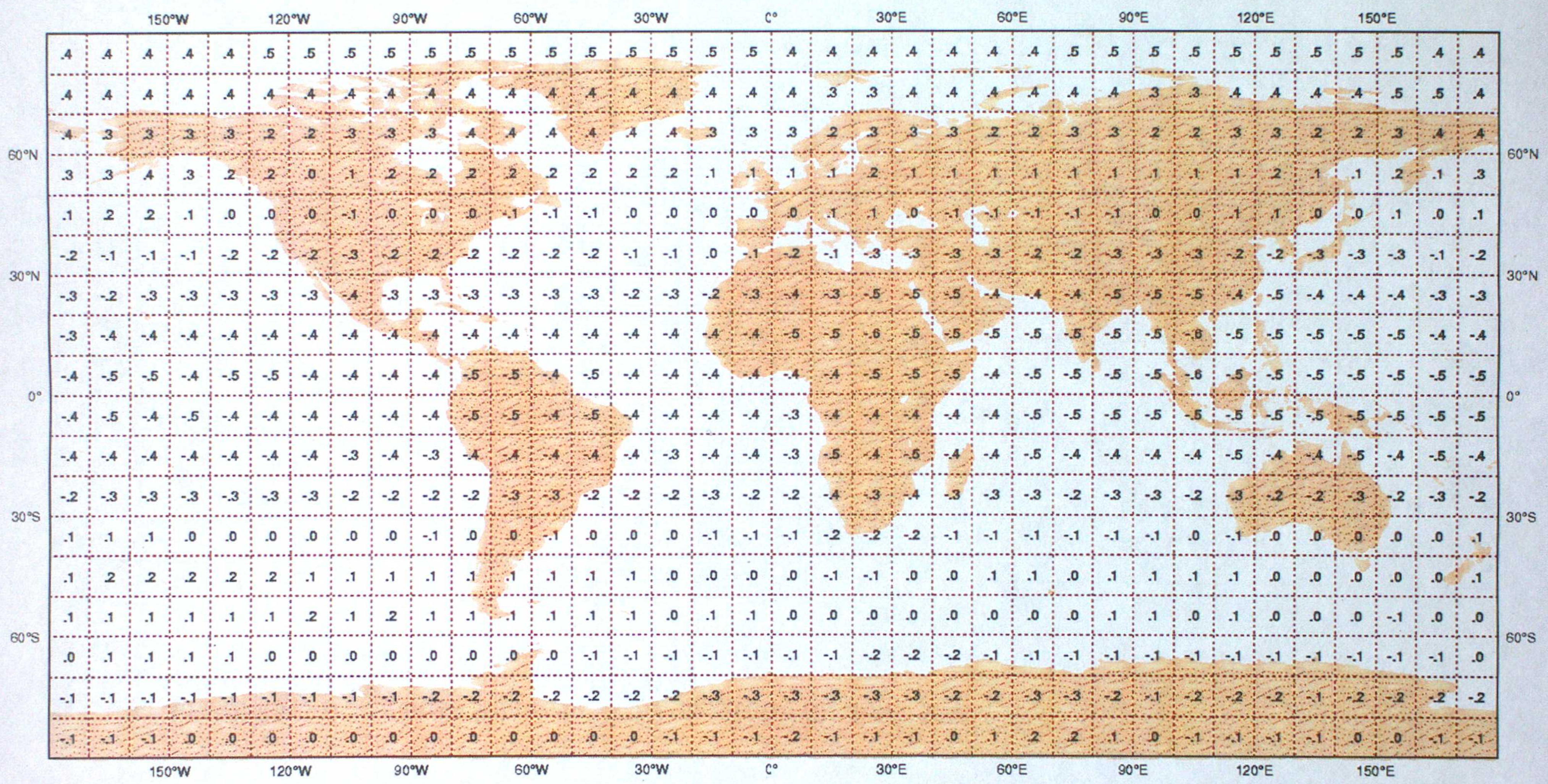

150°W
120°W
90°W
60°W
30°W
0°
30°E
60°E
90°E
120°E
150°E
60°N
30°N
0°
30°S
60°S

Figure 51. ATOVS MEAN O-B brightness temperature differences (deg C). JUNE 2006
Channel: AMSUA-7 (300 hPa)
NOAA16, using all observations



.4	.4	.4	.4	.4	.5	.5	.5	.5	.5	.5	.5	.5	.5	.5	.5	.5	.5	.4	.4	.4	.4	.4	.4	.4	.5	.5	.5	.5	.5	.5	.5	.5	.5	.4	.4
.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.3	.3	.4	.4	.4	.4	.4	.4	.3	.3	.4	.4	.4	.4	.5	.5	.4
.4	.3	.3	.3	.3	.2	.2	.3	.3	.3	.4	.4	.4	.4	.4	.4	.3	.3	.3	.2	.3	.3	.3	.2	.2	.3	.3	.2	.2	.3	.3	.2	.2	.3	.4	.4
.3	.3	.4	.3	.2	.2	.0	.1	.2	.2	.2	.2	.2	.2	.2	.2	.1	.1	.1	.1	.2	.1	.1	.1	.1	.1	.1	.1	.1	.1	.2	.1	.1	.2	.1	.3
.1	.2	.2	.1	.0	.0	.0	-.1	.0	.0	.0	-.1	-.1	-.1	.0	.0	.0	.0	.0	.1	.1	.0	-.1	-.1	-.1	-.1	-.1	.0	.0	.1	.1	.0	.0	.1	.0	.1
-.2	-.1	-.1	-.1	-.2	-.2	-.2	-.3	-.2	-.2	-.2	-.2	-.2	-.2	-.1	-.1	.0	-.1	-.2	-.1	-.3	-.3	-.3	-.3	-.2	-.2	-.3	-.3	-.3	-.2	-.2	-.3	-.3	-.3	-.1	-.2
-.3	-.2	-.3	-.3	-.3	-.3	-.3	-.4	-.3	-.3	-.3	-.3	-.3	-.3	-.2	-.3	-.2	-.3	-.4	-.3	-.5	-.5	-.5	-.4	-.4	-.4	-.5	-.5	-.5	-.4	-.5	-.4	-.4	-.4	-.3	-.3
-.3	-.4	-.4	-.4	-.4	-.4	-.4	-.4	-.4	-.4	-.4	-.4	-.4	-.4	-.4	-.4	-.4	-.4	-.5	-.5	-.6	-.5	-.5	-.5	-.5	-.5	-.5	-.5	-.5	-.6	-.5	-.5	-.5	-.5	-.4	-.4
-.4	-.5	-.5	-.4	-.5	-.5	-.4	-.4	-.4	-.4	-.5	-.5	-.4	-.5	-.4	-.4	-.4	-.4	-.4	-.4	-.5	-.5	-.5	-.4	-.5	-.5	-.5	-.5	-.6	-.5	-.5	-.5	-.5	-.5	-.5	-.5
-.4	-.5	-.4	-.5	-.4	-.4	-.4	-.4	-.4	-.4	-.5	-.5	-.4	-.5	-.4	-.4	-.4	-.4	-.3	-.4	-.4	-.4	-.4	-.4	-.5	-.5	-.5	-.5	-.5	-.5	-.5	-.5	-.5	-.5	-.5	-.5
-.4	-.4	-.4	-.4	-.4	-.4	-.4	-.3	-.4	-.3	-.4	-.4	-.4	-.4	-.4	-.3	-.4	-.4	-.3	-.5	-.4	-.5	-.4	-.4	-.5	-.4	-.4	-.4	-.4	-.5	-.4	-.4	-.5	-.4	-.5	-.4
-.2	-.3	-.3	-.3	-.3	-.3	-.3	-.2	-.2	-.2	-.2	-.3	-.3	-.2	-.2	-.2	-.3	-.2	-.2	-.4	-.3	-.4	-.3	-.3	-.3	-.2	-.3	-.3	-.2	-.3	-.2	-.2	-.3	-.2	-.3	-.2
.1	.1	.1	.0	.0	.0	.0	.0	.0	-.1	.0	.0	-.1	.0	.0	.0	-.1	-.1	-.1	-.2	-.2	-.2	-.1	-.1	-.1	-.1	-.1	-.1	.0	-.1	.0	.0	.0	.0	.0	.1
.1	.2	.2	.2	.2	.2	.1	.1	.1	.1	.1	.1	.1	.1	.1	.0	.0	.0	.0	-.1	-.1	.0	.0	.1	.1	.0	.1	.1	.1	.1	.0	.0	.0	.0	.0	.1
.1	.1	.1	.1	.1	.1	.2	.1	.2	.1	.1	.1	.1	.1	.1	.0	.1	.1	.0	.0	.0	.0	.0	.0	.0	.0	.1	.1	.0	.1	.0	.0	.0	-.1	.0	.0
.0	.1	.1	.1	.1	.0	.0	.0	.0	.0	.0	.0	.0	-.1	-.1	-.1	-.1	-.1	-.1	-.1	-.2	-.2	-.2	-.1	-.1	-.1	-.1	-.1	-.1	-.1	-.1	-.1	-.1	-.1	-.1	.0
-.1	-.1	-.1	-.1	-.1	-.1	-.1	-.1	-.1	-.2	-.2	-.2	-.2	-.2	-.2	-.2	-.3	-.3	-.3	-.3	-.3	-.3	-.2	-.2	-.3	-.3	-.2	-.1	-.2	-.2	-.2	-.1	-.2	-.2	-.2	-.2
-.1	-.1	-.1	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	-.1	-.1	-.1	-.2	-.1	-.1	-.1	.0	.1	.2	.2	.1	.0	-.1	-.1	-.1	-.1	.0	.0	-.1	-.1

Figure 52. ATOVS SD O-B brightness temperature differences (deg C). JUNE 2006
Channel: AMSUA-7 (300 hPa)
NOAA16, using all observations

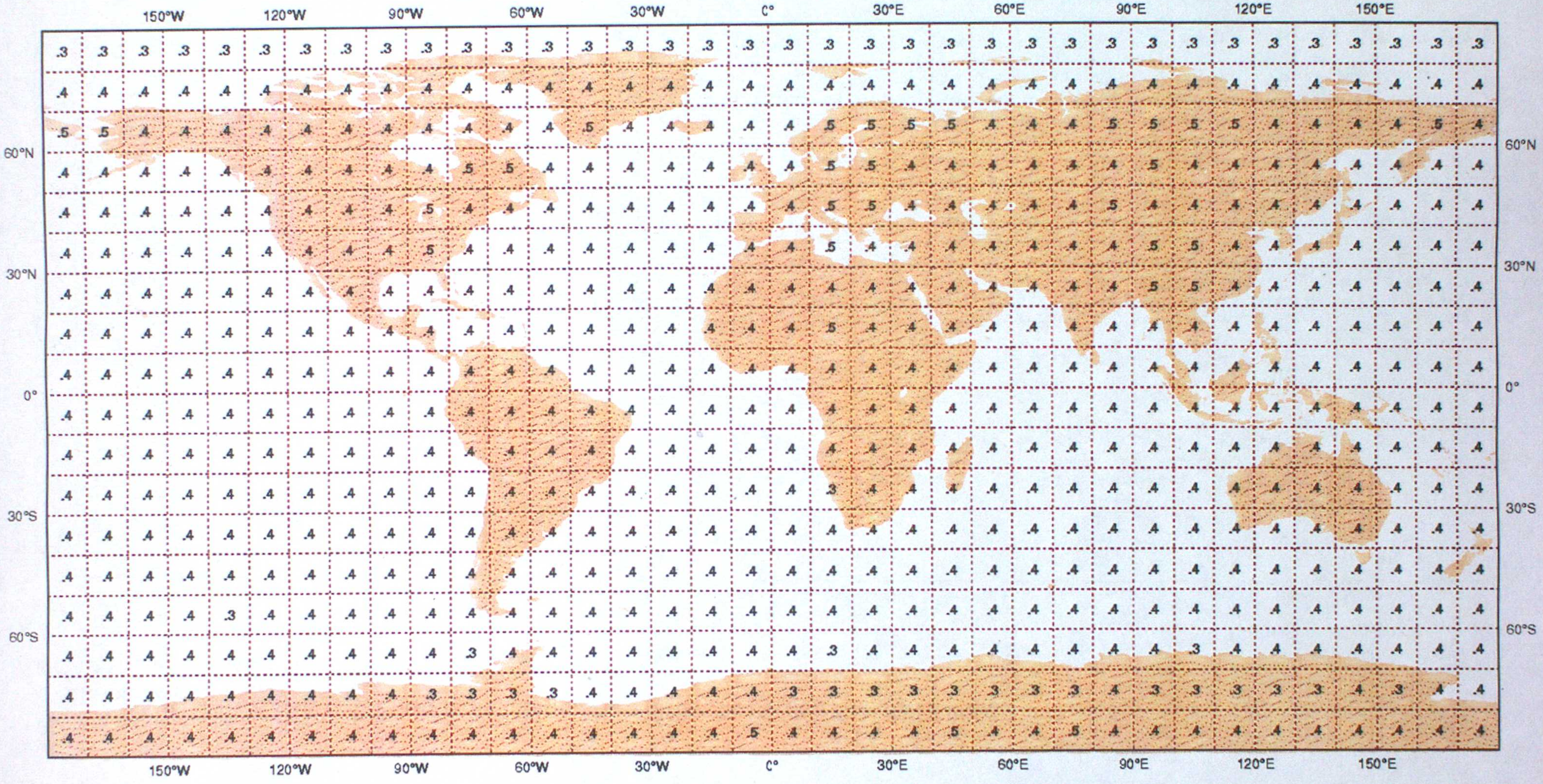
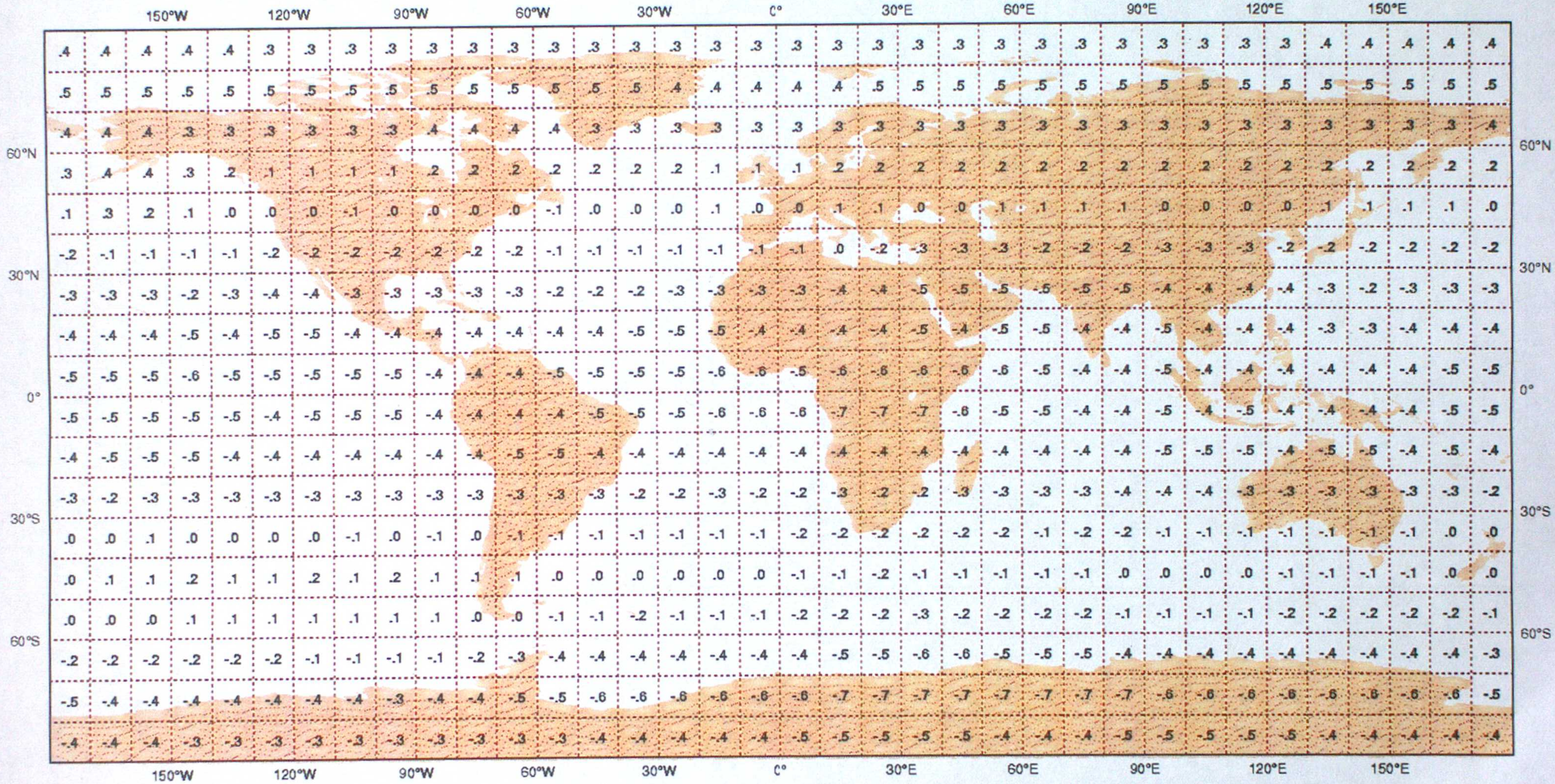
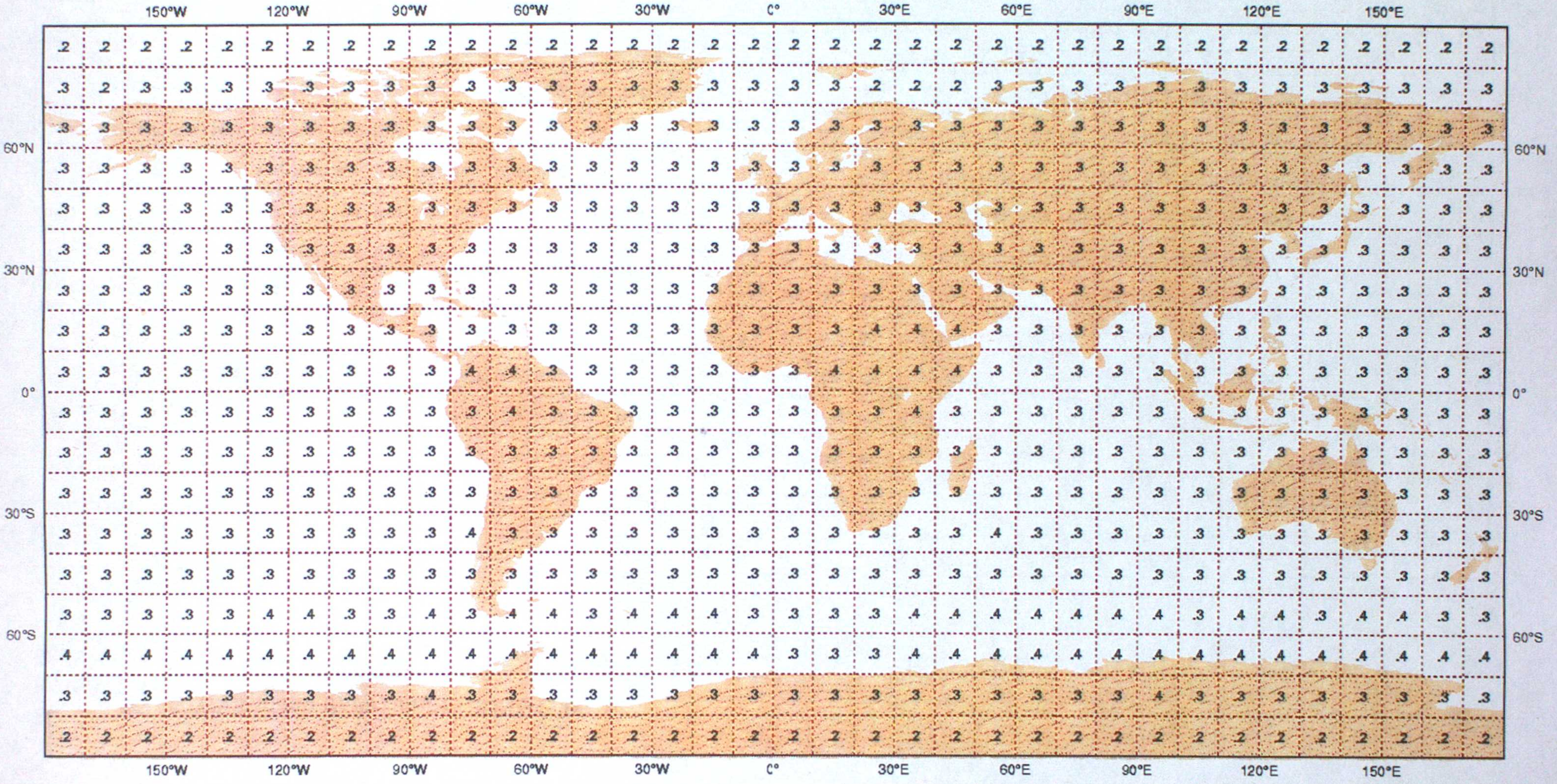

150°W
120°W
90°W
60°W
30°W
0°
30°E
60°E
90°E
120°E
150°E
60°N
30°N
0°
30°S
60°S
.3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3
.4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4
.5 .5 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .5 .4 .4 .4 .4 .4 .5 .5 .5 .5 .4 .4 .4 .5 .5 .5 .5 .4 .4 .4 .4 .5 .4
.4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .5 .5 .4 .4 .4 .4 .4 .4 .4 .5 .5 .4 .4 .4 .4 .4 .4 .5 .4 .4 .4 .4 .4 .4 .4 .4
.4 .4 .4 .4 .4 .4 .4 .4 .4 .5 .4 .4 .4 .4 .4 .4 .4 .4 .4 .5 .5 .4 .4 .4 .4 .4 .5 .4 .4 .4 .4 .4 .4 .4 .4 .4
.4 .4 .4 .4 .4 .4 .4 .4 .4 .5 .4 .4 .4 .4 .4 .4 .4 .4 .4 .5 .4 .4 .4 .4 .4 .4 .4 .5 .5 .4 .4 .4 .4 .4 .4 .4
.4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .5 .5 .4 .4 .4 .4 .4 .4 .4
.4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .5 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4
.4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4
.4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4
.4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4
.4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .3 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4
.4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4
.4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4
.4 .4 .4 .4 .3 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4
.4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .3 .4 .4 .4 .4 .4 .4 .4 .4 .3 .4 .4 .4 .4 .4 .4 .4 .4 .3 .4 .4 .4 .4 .4 .4 .4
.4 .4 .4 .4 .4 .4 .4 .4 .4 .3 .3 .3 .3 .4 .4 .4 .4 .4 .3 .3 .3 .3 .3 .3 .3 .3 .4 .3 .3 .3 .3 .3 .4 .3 .4 .4
.4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .5 .4 .4 .4 .4 .5 .4 .4 .5 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4

Figure 53. ATOVS MEAN O-B brightness temperature differences (deg C). JUNE 2006
Channel: AMSUA-9 (100 hPa)
NOAA16, using all observations



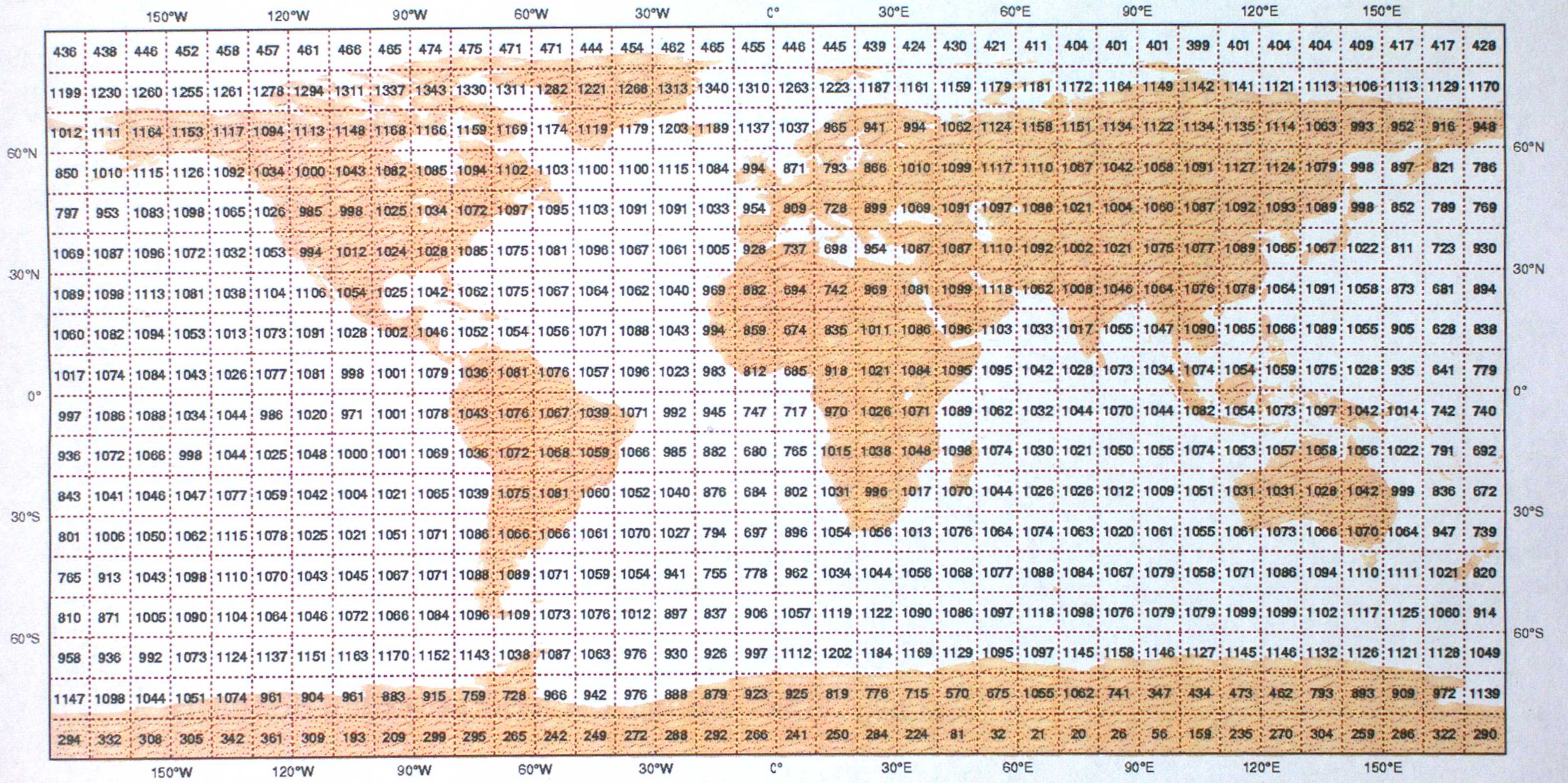
.4	.4	.4	.4	.4	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.4	.4	.4	.4	.4
.5	.5	.5	.5	.5	.5	.5	.5	.5	.5	.5	.5	.5	.5	.5	.4	.4	.4	.4	.4	.5	.5	.5	.5	.5	.5	.5	.5	.5	.5	.5	.5	.5	.5	.5	.5
.4	.4	.4	.3	.3	.3	.3	.3	.3	.4	.4	.4	.4	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.4
.3	.4	.4	.3	.2	.1	.1	.1	.1	.2	.2	.2	.2	.2	.2	.2	.1	.1	.1	.2	.2	.2	.2	.2	.2	.2	.2	.2	.2	.2	.2	.2	.2	.2	.2	.2
.1	.3	.2	.1	.0	.0	.0	-.1	.0	.0	.0	.0	-.1	.0	.0	.0	.1	.0	.0	.1	.1	.0	.0	.1	.1	.1	.1	.0	.0	.0	.0	.1	.1	.1	.1	.0
-.2	-.1	-.1	-.1	-.1	-.2	-.2	-.2	-.2	-.2	-.2	-.2	-.1	-.1	-.1	-.1	-.1	-.1	-.1	.0	-.2	-.3	-.3	-.3	-.2	-.2	-.2	-.3	-.3	-.3	-.2	-.2	-.2	-.2	-.2	-.2
-.3	-.3	-.3	-.2	-.3	-.4	-.4	-.3	-.3	-.3	-.3	-.3	-.2	-.2	-.2	-.3	-.3	-.3	-.3	-.4	-.4	-.5	-.5	-.5	-.5	-.5	-.5	-.4	-.4	-.4	-.4	-.3	-.2	-.3	-.3	-.3
-.4	-.4	-.4	-.5	-.4	-.5	-.5	-.4	-.4	-.4	-.4	-.4	-.4	-.4	-.5	-.5	-.5	-.4	-.4	-.4	-.4	-.5	-.4	-.5	-.5	-.4	-.4	-.5	-.4	-.4	-.4	-.3	-.3	-.4	-.4	-.4
-.5	-.5	-.5	-.6	-.5	-.5	-.5	-.5	-.5	-.4	-.4	-.4	-.5	-.5	-.5	-.5	-.6	-.6	-.5	-.6	-.6	-.6	-.6	-.6	-.5	-.4	-.4	-.5	-.4	-.4	-.4	-.4	-.4	-.4	-.5	-.5
-.5	-.5	-.5	-.5	-.5	-.4	-.5	-.5	-.5	-.4	-.4	-.4	-.4	-.5	-.5	-.5	-.6	-.6	-.6	-.7	-.7	-.7	-.6	-.5	-.5	-.4	-.4	-.5	-.4	-.5	-.4	-.4	-.4	-.4	-.5	-.5
-.4	-.5	-.5	-.5	-.4	-.4	-.4	-.4	-.4	-.4	-.4	-.5	-.5	-.4	-.4	-.4	-.4	-.4	-.4	-.4	-.4	-.4	-.4	-.4	-.4	-.4	-.4	-.5	-.5	-.5	-.4	-.5	-.5	-.4	-.5	-.4
-.3	-.2	-.3	-.3	-.3	-.3	-.3	-.3	-.3	-.3	-.3	-.3	-.3	-.3	-.2	-.2	-.3	-.2	-.2	-.3	-.2	-.2	-.3	-.3	-.3	-.3	-.4	-.4	-.4	-.3	-.3	-.3	-.3	-.3	-.3	-.2
.0	.0	.1	.0	.0	.0	.0	-.1	.0	-.1	.0	-.1	-.1	-.1	-.1	-.1	-.1	-.1	-.2	-.2	-.2	-.2	-.2	-.2	-.1	-.2	-.2	-.1	-.1	-.1	-.1	-.1	-.1	-.1	.0	.0
.0	.1	.1	.2	.1	.1	.2	.1	.2	.1	.1	.1	.0	.0	.0	.0	.0	.0	-.1	-.1	-.2	-.1	-.1	-.1	-.1	-.1	.0	.0	.0	.0	-.1	-.1	-.1	-.1	.0	.0
.0	.0	.0	.1	.1	.1	.1	.1	.1	.1	.0	.0	-.1	-.1	-.2	-.1	-.1	-.1	-.2	-.2	-.2	-.3	-.2	-.2	-.2	-.2	-.1	-.1	-.1	-.1	-.2	-.2	-.2	-.2	-.2	-.1
-.2	-.2	-.2	-.2	-.2	-.2	-.1	-.1	-.1	-.1	-.2	-.3	-.4	-.4	-.4	-.4	-.4	-.4	-.4	-.5	-.5	-.6	-.6	-.5	-.5	-.5	-.4	-.4	-.4	-.4	-.4	-.4	-.4	-.4	-.4	-.3
-.5	-.4	-.4	-.4	-.4	-.4	-.4	-.4	-.3	-.4	-.4	-.5	-.5	-.6	-.6	-.6	-.6	-.6	-.6	-.7	-.7	-.7	-.7	-.7	-.7	-.7	-.7	-.6	-.6	-.6	-.6	-.6	-.6	-.6	-.6	-.5
-.4	-.4	-.4	-.3	-.3	-.3	-.3	-.3	-.3	-.3	-.3	-.3	-.3	-.4	-.4	-.4	-.4	-.4	-.5	-.5	-.5	-.5	-.5	-.4	-.4	-.4	-.5	-.5	-.5	-.5	-.5	-.4	-.4	-.4	-.4	-.4

Figure 54. ATOVS SD O-B brightness temperature differences (deg C). JUNE 2006
Channel: AMSUA-9 (100 hPa)
NOAA16, using all observations



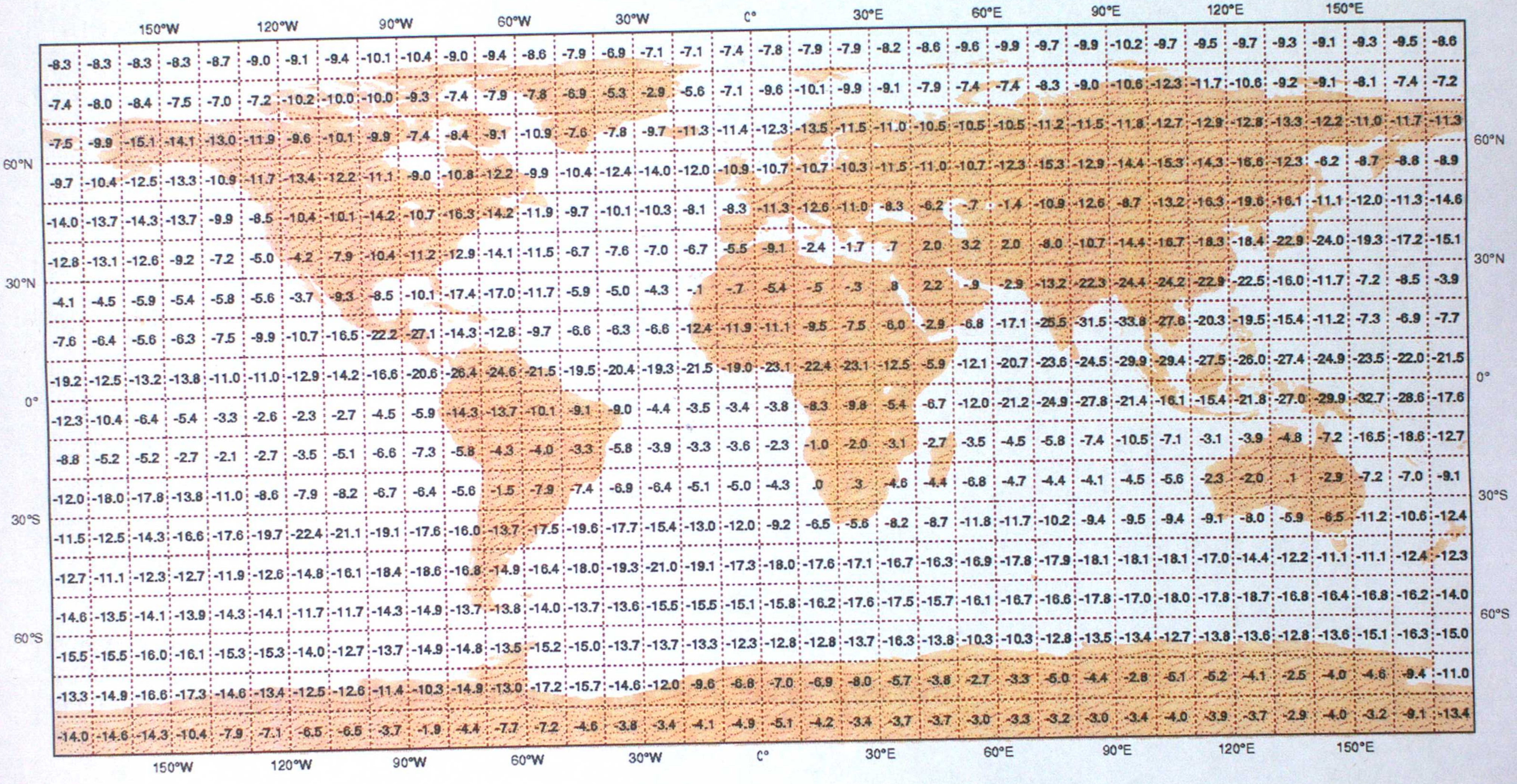
.2	.2	.2	.2	.2	.2	.2	.2	.2	.2	.2	.2	.2	.2	.2	.2	.2	.2	.2	.2	.2	.2	.2	.2	.2	.2	.2	.2	.2	.2	.2	.2	.2	.2	.2	.2
.3	.2	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.2	.2	.2	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3
.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3
.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3
.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3
.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3
.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3
.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.4	.4	.4	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3
.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.4	.4	.3	.3	.3	.3	.3	.3	.3	.4	.4	.4	.4	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3
.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.4	.3	.3	.3	.3	.3	.3	.3	.3	.3	.4	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3
.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3
.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3
.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.4	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.4	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3
.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3
.3	.3	.3	.3	.3	.4	.4	.3	.3	.4	.3	.4	.4	.3	.4	.4	.4	.3	.3	.3	.3	.4	.4	.4	.4	.4	.4	.4	.3	.4	.4	.3	.4	.4	.3	.3
.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.3	.3	.3	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4
.3	.3	.3	.3	.3	.3	.3	.3	.3	.4	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.4	.3	.3	.3	.3	.3	.3	.3	.3
.2	.2	.2	.2	.2	.2	.2	.2	.2	.2	.2	.2	.2	.2	.2	.2	.2	.2	.2	.2	.2	.2	.2	.2	.2	.2	.2	.2	.2	.2	.2	.2	.2	.2	.2	.2

Figure 55. ATOVS mean daily count. JUNE 2006
NOAA18, using all observations
Global average number of observations in 24 hours = 616946



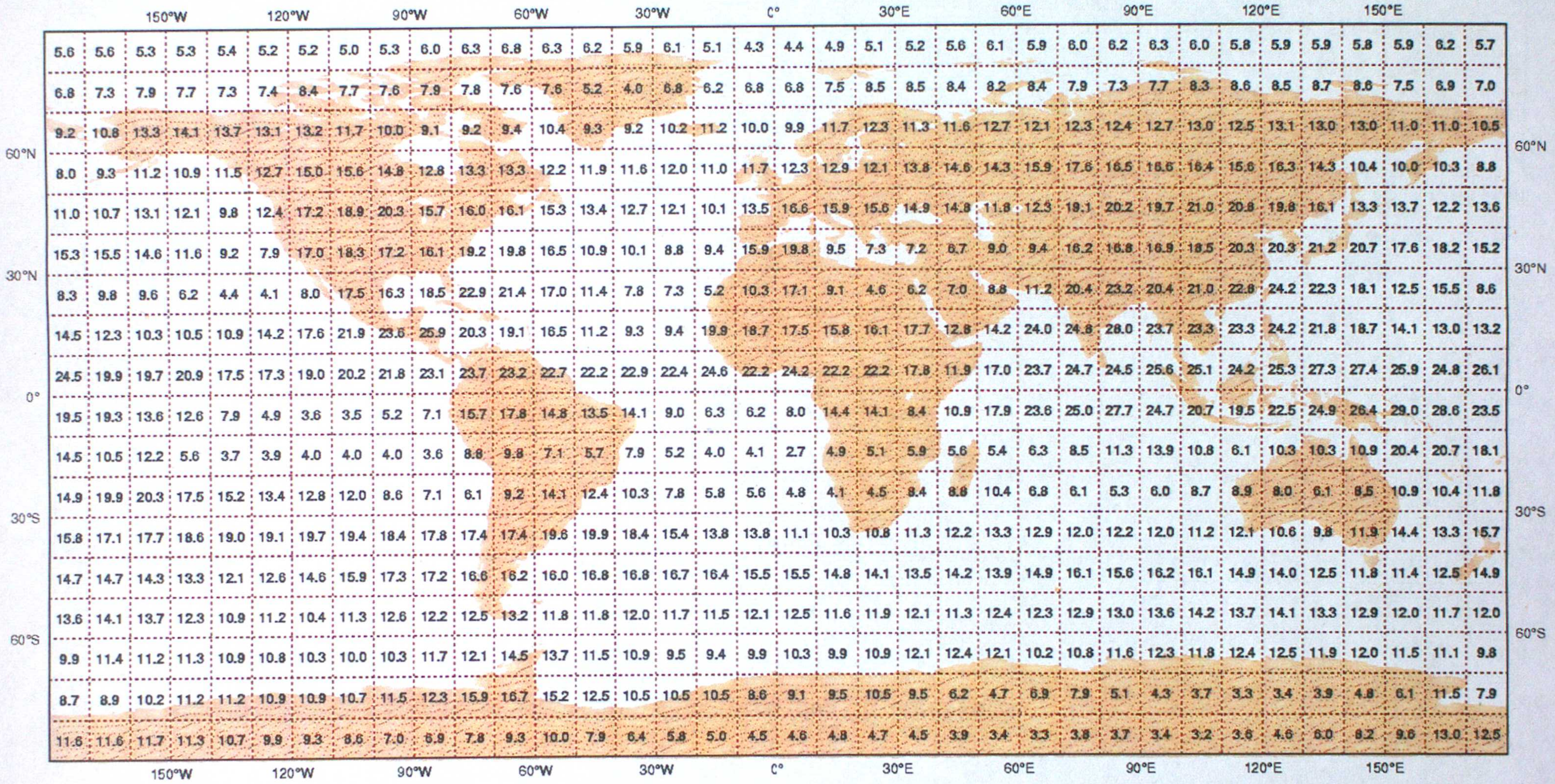
436	438	446	452	458	457	461	466	465	474	475	471	471	444	454	462	465	455	446	445	439	424	430	421	411	404	401	401	399	401	404	404	409	417	417	428
1199	1230	1260	1255	1261	1278	1294	1311	1337	1343	1330	1311	1282	1221	1268	1313	1340	1310	1263	1223	1187	1161	1159	1179	1181	1172	1164	1149	1142	1141	1121	1113	1106	1113	1129	1170
1012	1111	1164	1153	1117	1094	1113	1148	1168	1166	1159	1169	1174	1119	1179	1203	1189	1137	1037	965	941	994	1062	1124	1158	1151	1134	1122	1134	1135	1114	1063	993	952	916	948
850	1010	1115	1126	1092	1034	1000	1043	1082	1085	1094	1102	1103	1100	1100	1115	1084	994	871	793	866	1010	1099	1117	1110	1067	1042	1058	1091	1127	1124	1079	998	897	821	786
797	953	1083	1098	1065	1026	985	998	1025	1034	1072	1097	1095	1103	1091	1091	1033	954	809	728	899	1069	1091	1097	1088	1021	1004	1060	1087	1092	1093	1089	998	852	789	769
1069	1087	1096	1072	1032	1053	994	1012	1024	1028	1085	1075	1081	1096	1067	1061	1005	928	737	698	954	1087	1087	1110	1092	1002	1021	1075	1077	1089	1065	1067	1022	811	723	930
1089	1098	1113	1081	1038	1104	1106	1054	1025	1042	1062	1075	1067	1064	1062	1040	969	882	694	742	969	1081	1099	1118	1062	1008	1046	1064	1076	1078	1064	1091	1058	873	681	894
1060	1082	1094	1053	1013	1073	1091	1028	1002	1046	1052	1054	1056	1071	1088	1043	994	859	674	835	1011	1086	1096	1103	1033	1017	1055	1047	1090	1065	1066	1089	1055	905	628	838
1017	1074	1084	1043	1026	1077	1081	998	1001	1079	1036	1081	1076	1057	1096	1023	983	812	685	918	1021	1084	1095	1095	1042	1028	1073	1034	1074	1054	1059	1075	1028	935	641	779
997	1086	1088	1034	1044	986	1020	971	1001	1078	1043	1076	1067	1039	1071	992	945	747	717	970	1026	1071	1089	1062	1032	1044	1070	1044	1082	1054	1073	1097	1042	1014	742	740
936	1072	1066	998	1044	1025	1048	1000	1001	1069	1036	1072	1068	1059	1066	985	882	680	765	1015	1038	1048	1098	1074	1030	1021	1050	1055	1074	1053	1057	1058	1056	1022	791	692
843	1041	1046	1047	1077	1059	1042	1004	1021	1065	1039	1075	1081	1060	1052	1040	876	684	802	1031	996	1017	1070	1044	1026	1026	1012	1009	1051	1031	1031	1028	1042	999	836	672
801	1006	1050	1062	1115	1078	1025	1021	1051	1071	1086	1066	1066	1061	1070	1027	794	697	896	1054	1056	1013	1076	1064	1074	1063	1020	1061	1055	1061	1073	1066	1070	1064	947	739
765	913	1043	1098	1110	1070	1043	1045	1067	1071	1088	1089	1071	1059	1054	941	755	778	962	1034	1044	1056	1068	1077	1088	1084	1067	1079	1058	1071	1086	1094	1110	1111	1021	820
810	871	1005	1090	1104	1064	1046	1072	1066	1084	1096	1109	1073	1076	1012	897	837	906	1057	1119	1122	1090	1086	1097	1118	1098	1076	1079	1079	1099	1099	1102	1117	1125	1060	914
958	936	992	1073	1124	1137	1151	1163	1170	1152	1143	1038	1087	1063	976	930	926	997	1112	1202	1184	1169	1129	1095	1097	1145	1158	1146	1127	1145	1146	1132	1126	1121	1128	1049
1147	1098	1044	1051	1074	961	904	961	883	915	759	728	966	942	976	888	879	923	925	819	776	715	570	675	1055	1062	741	347	434	473	462	793	893	909	972	1139
294	332	308	305	342	361	309	193	209	299	295	265	242	249	272	288	292	266	241	250	284	224	81	32	21	20	26	56	159	235	270	304	259	286	322	290

Figure 56. ATOVS MEAN O-B brightness temperature differences (deg C). JUNE 2006
Channel: HIRS8 (Surface)
NOAA18, using all observations



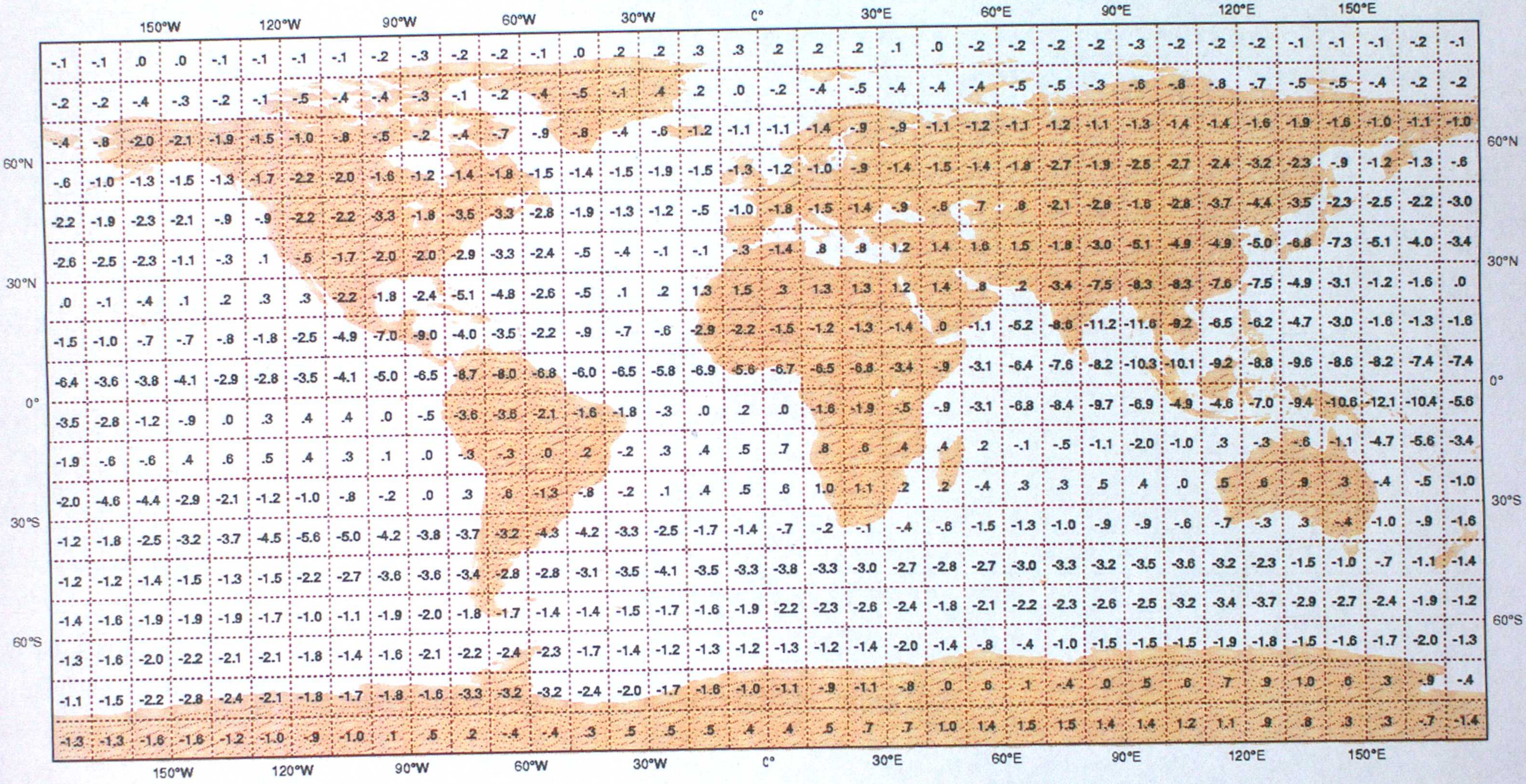
-8.3	-8.3	-8.3	-8.3	-8.7	-9.0	-9.1	-9.4	-10.1	-10.4	-9.0	-9.4	-8.6	-7.9	-6.9	-7.1	-7.1	-7.4	-7.8	-7.9	-7.9	-8.2	-8.6	-9.6	-9.9	-9.7	-9.9	-10.2	-9.7	-9.5	-9.7	-9.3	-9.1	-9.3	-9.5	-8.6
-7.4	-8.0	-8.4	-7.5	-7.0	-7.2	-10.2	-10.0	-10.0	-9.3	-7.4	-7.9	-7.8	-6.9	-5.3	-2.9	-5.6	-7.1	-9.6	-10.1	-9.9	-9.1	-7.9	-7.4	-7.4	-8.3	-9.0	-10.6	-12.3	-11.7	-10.6	-9.2	-9.1	-8.1	-7.4	-7.2
-7.5	-9.9	-15.1	-14.1	-13.0	-11.9	-9.6	-10.1	-9.9	-7.4	-8.4	-9.1	-10.9	-7.6	-7.8	-9.7	-11.3	-11.4	-12.3	-13.5	-11.5	-11.0	-10.5	-10.5	-10.5	-11.2	-11.5	-11.8	-12.7	-12.9	-12.8	-13.3	-12.2	-11.0	-11.7	-11.3
-9.7	-10.4	-12.5	-13.3	-10.9	-11.7	-13.4	-12.2	-11.1	-9.0	-10.8	-12.2	-9.9	-10.4	-12.4	-14.0	-12.0	-10.9	-10.7	-10.7	-10.3	-11.5	-11.0	-10.7	-12.3	-15.3	-12.9	-14.4	-15.3	-14.3	-16.6	-12.3	-6.2	-8.7	-8.8	-8.9
-14.0	-13.7	-14.3	-13.7	-9.9	-8.5	-10.4	-10.1	-14.2	-10.7	-16.3	-14.2	-11.9	-9.7	-10.1	-10.3	-8.1	-8.3	-11.3	-12.6	-11.0	-8.3	-6.2	-.7	-1.4	-10.9	-12.6	-8.7	-13.2	-16.3	-19.6	-16.1	-11.1	-12.0	-11.3	-14.6
-12.8	-13.1	-12.6	-9.2	-7.2	-5.0	-4.2	-7.9	-10.4	-11.2	-12.9	-14.1	-11.5	-6.7	-7.6	-7.0	-6.7	-5.5	-9.1	-2.4	-1.7	.7	2.0	3.2	2.0	-8.0	-10.7	-14.4	-16.7	-18.3	-18.4	-22.9	-24.0	-19.3	-17.2	-15.1
-4.1	-4.5	-5.9	-5.4	-5.8	-5.6	-3.7	-9.3	-8.5	-10.1	-17.4	-17.0	-11.7	-5.9	-5.0	-4.3	-.1	-.7	-5.4	-.5	-.3	.8	2.2	-.9	-2.9	-13.2	-22.3	-24.4	-24.2	-22.9	-22.5	-16.0	-11.7	-7.2	-8.5	-3.9
-7.6	-6.4	-5.6	-6.3	-7.5	-9.9	-10.7	-16.5	-22.2	-27.1	-14.3	-12.8	-9.7	-6.6	-6.3	-6.6	-12.4	-11.9	-11.1	-9.5	-7.5	-6.0	-2.9	-6.8	-17.1	-25.5	-31.5	-33.8	-27.6	-20.3	-19.5	-15.4	-11.2	-7.3	-6.9	-7.7
-19.2	-12.5	-13.2	-13.8	-11.0	-11.0	-12.9	-14.2	-16.6	-20.6	-26.4	-24.6	-21.5	-19.5	-20.4	-19.3	-21.5	-19.0	-23.1	-22.4	-23.1	-12.5	-5.9	-12.1	-20.7	-23.6	-24.5	-29.9	-29.4	-27.5	-26.0	-27.4	-24.9	-23.5	-22.0	-21.5
-12.3	-10.4	-6.4	-5.4	-3.3	-2.6	-2.3	-2.7	-4.5	-5.9	-14.3	-13.7	-10.1	-9.1	-9.0	-4.4	-3.5	-3.4	-3.8	-8.3	-9.8	-5.4	-6.7	-12.0	-21.2	-24.9	-27.8	-21.4	-16.1	-15.4	-21.8	-27.0	-29.9	-32.7	-28.6	-17.6
-8.8	-5.2	-5.2	-2.7	-2.1	-2.7	-3.5	-5.1	-6.6	-7.3	-5.8	-4.3	-4.0	-3.3	-5.8	-3.9	-3.3	-3.6	-2.3	-1.0	-2.0	-3.1	-2.7	-3.5	-4.5	-5.8	-7.4	-10.5	-7.1	-3.1	-3.9	-4.8	-7.2	-16.5	-18.6	-12.7
-12.0	-18.0	-17.8	-13.8	-11.0	-8.6	-7.9	-8.2	-6.7	-6.4	-5.6	-1.5	-7.9	-7.4	-6.9	-6.4	-5.1	-5.0	-4.3	.0	.3	-4.6	-4.4	-6.8	-4.7	-4.4	-4.1	-4.5	-5.6	-2.3	-2.0	.1	-2.9	-7.2	-7.0	-9.1
-11.5	-12.5	-14.3	-16.6	-17.6	-19.7	-22.4	-21.1	-19.1	-17.6	-16.0	-13.7	-17.5	-19.6	-17.7	-15.4	-13.0	-12.0	-9.2	-6.5	-5.6	-8.2	-8.7	-11.8	-11.7	-10.2	-9.4	-9.5	-9.4	-9.1	-8.0	-5.9	-6.5	-11.2	-10.6	-12.4
-12.7	-11.1	-12.3	-12.7	-11.9	-12.6	-14.8	-16.1	-18.4	-18.6	-16.8	-14.9	-16.4	-18.0	-19.3	-21.0	-19.1	-17.3	-18.0	-17.6	-17.1	-16.7	-16.3	-16.9	-17.8	-17.9	-18.1	-18.1	-18.1	-17.0	-14.4	-12.2	-11.1	-11.1	-12.4	-12.3
-14.6	-13.5	-14.1	-13.9	-14.3	-14.1	-11.7	-11.7	-14.3	-14.9	-13.7	-13.8	-14.0	-13.7	-13.6	-15.5	-15.5	-15.1	-15.8	-16.2	-17.6	-17.5	-15.7	-16.1	-16.7	-16.6	-17.8	-17.0	-18.0	-17.8	-18.7	-16.8	-16.4	-16.8	-16.2	-14.0
-15.5	-15.5	-16.0	-16.1	-15.3	-15.3	-14.0	-12.7	-13.7	-14.9	-14.8	-13.5	-15.2	-15.0	-13.7	-13.7	-13.3	-12.3	-12.8	-12.8	-13.7	-16.3	-13.8	-10.3	-10.3	-12.8	-13.5	-13.4	-12.7	-13.8	-13.6	-12.8	-13.6	-15.1	-16.3	-15.0
-13.3	-14.9	-16.6	-17.3	-14.6	-13.4	-12.5	-12.6	-11.4	-10.3	-14.9	-13.0	-17.2	-15.7	-14.6	-12.0	-9.6	-6.8	-7.0	-6.9	-8.0	-5.7	-3.8	-2.7	-3.3	-6.0	-4.4	-2.8	-5.1	-5.2	-4.1	-2.5	-4.0	-4.6	-9.4	-11.0
-14.0	-14.6	-14.3	-10.4	-7.9	-7.1	-6.5	-6.5	-3.7	-1.9	-4.4	-7.7	-7.2	-4.6	-3.8	-3.4	-4.1	-4.9	-5.1	-4.2	-3.4	-3.7	-3.7	-3.0	-3.3	-3.2	-3.0	-3.4	-4.0	-3.9	-3.7	-2.9	-4.0	-3.2	-9.1	-13.4

Figure 57. ATOVS SD O-B brightness temperature differences (deg C). JUNE 2006
Channel: HIRS8 (Surface)
NOAA18, using all observations



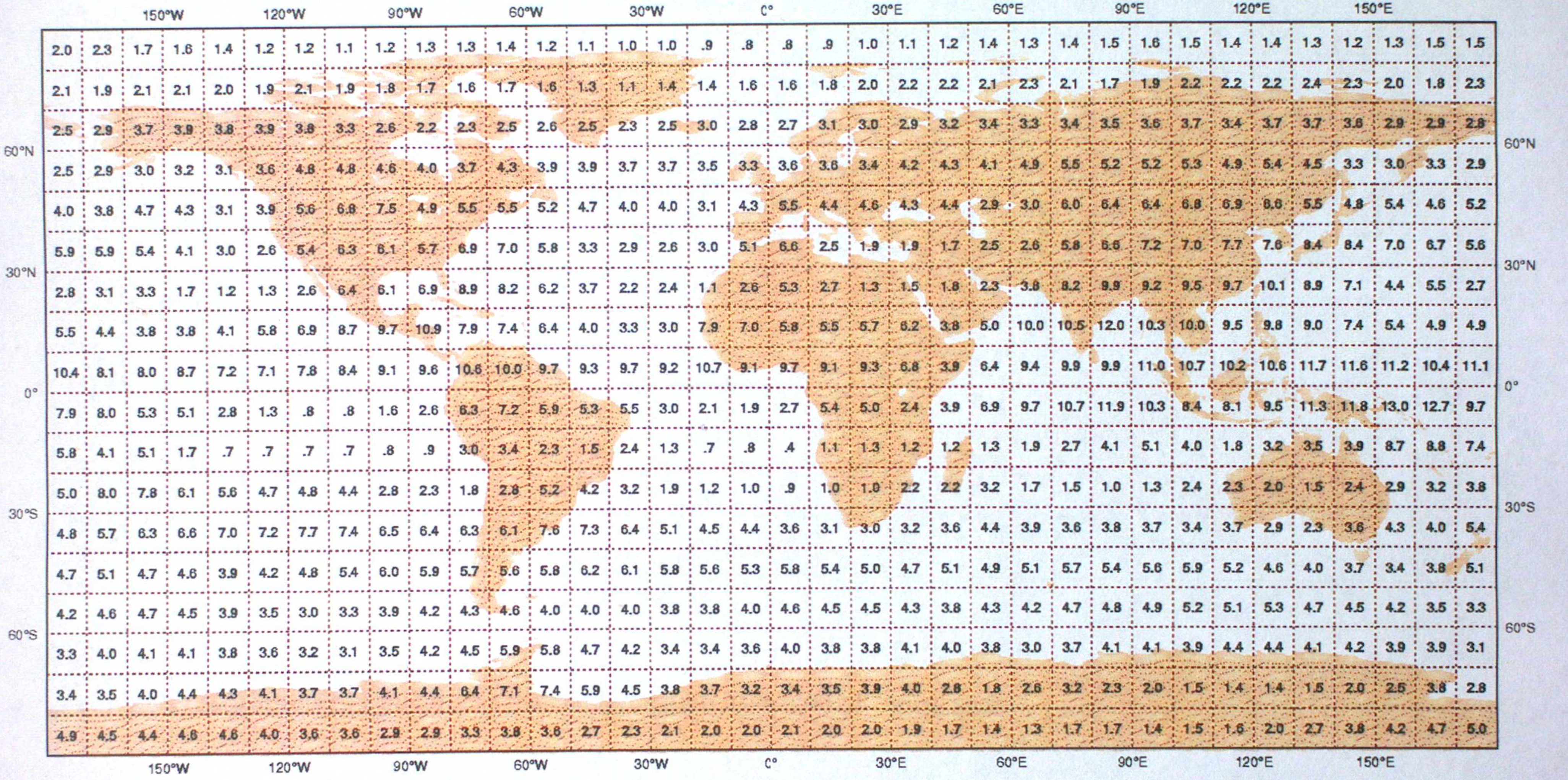
5.6	5.6	5.3	5.3	5.4	5.2	5.2	5.0	5.3	6.0	6.3	6.8	6.3	6.2	5.9	6.1	5.1	4.3	4.4	4.9	5.1	5.2	5.6	6.1	5.9	6.0	6.2	6.3	6.0	5.8	5.9	5.9	5.8	5.9	6.2	5.7
6.8	7.3	7.9	7.7	7.3	7.4	8.4	7.7	7.6	7.9	7.8	7.6	7.6	5.2	4.0	6.8	6.2	6.8	6.8	7.5	8.5	8.5	8.4	8.2	8.4	7.9	7.3	7.7	8.3	8.6	8.5	8.7	8.6	7.5	6.9	7.0
9.2	10.8	13.3	14.1	13.7	13.1	13.2	11.7	10.0	9.1	9.2	9.4	10.4	9.3	9.2	10.2	11.2	10.0	9.9	11.7	12.3	11.3	11.6	12.7	12.1	12.3	12.4	12.7	13.0	12.5	13.1	13.0	13.0	11.0	11.0	10.5
8.0	9.3	11.2	10.9	11.5	12.7	15.0	15.6	14.8	12.8	13.3	13.3	12.2	11.9	11.6	12.0	11.0	11.7	12.3	12.9	12.1	13.8	14.6	14.3	15.9	17.6	16.5	16.6	16.4	15.6	16.3	14.3	10.4	10.0	10.3	8.8
11.0	10.7	13.1	12.1	9.8	12.4	17.2	18.9	20.3	15.7	16.0	16.1	15.3	13.4	12.7	12.1	10.1	13.5	16.6	15.9	15.6	14.9	14.8	11.8	12.3	19.1	20.2	19.7	21.0	20.8	19.8	16.1	13.3	13.7	12.2	13.6
15.3	15.5	14.6	11.6	9.2	7.9	17.0	18.3	17.2	16.1	19.2	19.8	16.5	10.9	10.1	8.8	9.4	15.9	19.8	9.5	7.3	7.2	6.7	9.0	9.4	16.2	16.8	16.9	18.5	20.3	20.3	21.2	20.7	17.6	18.2	15.2
8.3	9.8	9.6	6.2	4.4	4.1	8.0	17.5	16.3	18.5	22.9	21.4	17.0	11.4	7.8	7.3	5.2	10.3	17.1	9.1	4.6	6.2	7.0	8.8	11.2	20.4	23.2	20.4	21.0	22.8	24.2	22.3	18.1	12.5	15.5	8.6
14.5	12.3	10.3	10.5	10.9	14.2	17.6	21.9	23.6	25.9	20.3	19.1	16.5	11.2	9.3	9.4	19.9	18.7	17.5	15.8	16.1	17.7	12.8	14.2	24.0	24.8	28.0	23.7	23.3	23.3	24.2	21.8	18.7	14.1	13.0	13.2
24.5	19.9	19.7	20.9	17.5	17.3	19.0	20.2	21.8	23.1	23.7	23.2	22.7	22.2	22.9	22.4	24.6	22.2	24.2	22.2	22.2	17.8	11.9	17.0	23.7	24.7	24.5	25.6	25.1	24.2	25.3	27.3	27.4	25.9	24.8	26.1
19.5	19.3	13.6	12.6	7.9	4.9	3.6	3.5	5.2	7.1	15.7	17.8	14.8	13.5	14.1	9.0	6.3	6.2	8.0	14.4	14.1	8.4	10.9	17.9	23.6	25.0	27.7	24.7	20.7	19.5	22.5	24.9	26.4	29.0	28.6	23.5
14.5	10.5	12.2	5.6	3.7	3.9	4.0	4.0	4.0	3.6	8.8	9.8	7.1	5.7	7.9	5.2	4.0	4.1	2.7	4.9	5.1	5.9	5.6	5.4	6.3	8.5	11.3	13.9	10.8	6.1	10.3	10.3	10.9	20.4	20.7	18.1
14.9	19.9	20.3	17.5	15.2	13.4	12.8	12.0	8.6	7.1	6.1	9.2	14.1	12.4	10.3	7.8	5.8	5.6	4.8	4.1	4.5	8.4	8.8	10.4	6.8	6.1	5.3	6.0	8.7	8.9	8.0	6.1	8.5	10.9	10.4	11.8
15.8	17.1	17.7	18.6	19.0	19.1	19.7	19.4	18.4	17.8	17.4	17.4	19.6	19.9	18.4	15.4	13.8	13.8	11.1	10.3	10.8	11.3	12.2	13.3	12.9	12.0	12.2	12.0	11.2	12.1	10.6	9.8	11.9	14.4	13.3	15.7
14.7	14.7	14.3	13.3	12.1	12.6	14.6	15.9	17.3	17.2	16.6	16.2	16.0	16.8	16.8	16.7	16.4	15.5	15.5	14.8	14.1	13.5	14.2	13.9	14.9	16.1	15.6	16.2	16.1	14.9	14.0	12.5	11.8	11.4	12.5	14.9
13.6	14.1	13.7	12.3	10.9	11.2	10.4	11.3	12.6	12.2	12.5	13.2	11.8	11.8	12.0	11.7	11.5	12.1	12.5	11.6	11.9	12.1	11.3	12.4	12.3	12.9	13.0	13.6	14.2	13.7	14.1	13.3	12.9	12.0	11.7	12.0
9.9	11.4	11.2	11.3	10.9	10.8	10.3	10.0	10.3	11.7	12.1	14.5	13.7	11.5	10.9	9.5	9.4	9.9	10.3	9.9	10.9	12.1	12.4	12.1	10.2	10.8	11.6	12.3	11.8	12.4	12.5	11.9	12.0	11.5	11.1	9.8
8.7	8.9	10.2	11.2	11.2	10.9	10.9	10.7	11.5	12.3	15.9	16.7	15.2	12.5	10.5	10.5	10.5	8.6	9.1	9.5	10.5	9.5	6.2	4.7	6.9	7.9	5.1	4.3	3.7	3.3	3.4	3.9	4.8	6.1	11.5	7.9
11.6	11.6	11.7	11.3	10.7	9.9	9.3	8.6	7.0	6.9	7.8	9.3	10.0	7.9	6.4	5.8	5.0	4.5	4.6	4.8	4.7	4.5	3.9	3.4	3.3	3.8	3.7	3.4	3.2	3.6	4.6	6.0	8.2	9.6	13.0	12.5

Figure 58. ATOVS MEAN O-B brightness temperature differences (deg C). JUNE 2006
Channel: HIRS15 (700 hPa)
NOAA18, using all observations



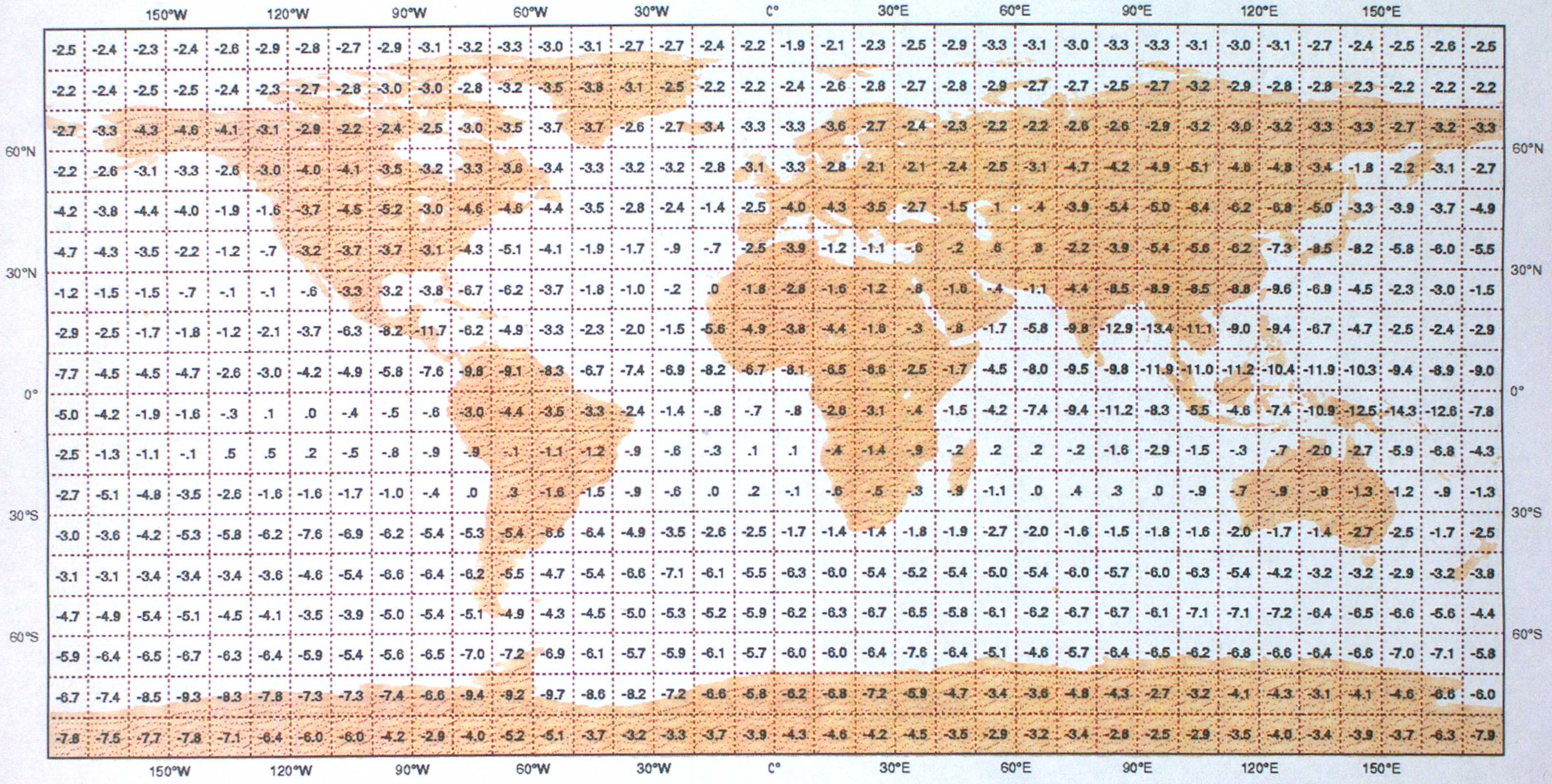
-.1	-.1	.0	.0	-.1	-.1	-.1	-.1	-.2	-.3	-.2	-.2	-.1	.0	.2	.2	.3	.3	.2	.2	.2	.1	.0	-.2	-.2	-.2	-.2	-.3	-.2	-.2	-.2	-.1	-.1	-.1	-.2	-.1
-.2	-.2	-.4	-.3	-.2	-.1	-.5	-.4	-.4	-.3	-.1	-.2	-.4	-.5	-.1	.4	.2	.0	-.2	-.4	-.5	-.4	-.4	-.4	-.5	-.5	-.3	-.6	-.8	-.8	-.7	-.5	-.5	-.4	-.2	-.2
-.4	-.8	-2.0	-2.1	-1.9	-1.5	-1.0	-.8	-.5	-.2	-.4	-.7	-.9	-.8	-.4	-.6	-1.2	-1.1	-1.1	-1.4	-.9	-.9	-1.1	-1.2	-1.1	-1.2	-1.1	-1.3	-1.4	-1.4	-1.6	-1.9	-1.6	-1.0	-1.1	-1.0
-.6	-1.0	-1.3	-1.5	-1.3	-1.7	-2.2	-2.0	-1.6	-1.2	-1.4	-1.8	-1.5	-1.4	-1.5	-1.9	-1.5	-1.3	-1.2	-1.0	-.9	-1.4	-1.5	-1.4	-1.8	-2.7	-1.9	-2.5	-2.7	-2.4	-3.2	-2.3	-.9	-1.2	-1.3	-.6
-2.2	-1.9	-2.3	-2.1	-.9	-.9	-2.2	-2.2	-3.3	-1.8	-3.5	-3.3	-2.8	-1.9	-1.3	-1.2	-.5	-1.0	-1.8	-1.5	-1.4	-.9	-.6	.7	.8	-2.1	-2.8	-1.8	-2.8	-3.7	-4.4	-3.5	-2.3	-2.5	-2.2	-3.0
-2.6	-2.5	-2.3	-1.1	-.3	.1	-.5	-1.7	-2.0	-2.0	-2.9	-3.3	-2.4	-.5	-.4	-.1	-.1	-.3	-1.4	.8	.8	1.2	1.4	1.6	1.5	-1.8	-3.0	-5.1	-4.9	-4.9	-5.0	-6.8	-7.3	-5.1	-4.0	-3.4
.0	-.1	-.4	.1	.2	.3	.3	-2.2	-1.8	-2.4	-5.1	-4.8	-2.6	-.5	.1	.2	1.3	1.5	.3	1.3	1.3	1.2	1.4	.8	.2	-3.4	-7.5	-8.3	-8.3	-7.6	-7.5	-4.9	-3.1	-1.2	-1.6	.0
-1.5	-1.0	-.7	-.7	-.8	-1.8	-2.5	-4.9	-7.0	-9.0	-4.0	-3.5	-2.2	-.9	-.7	-.6	-2.9	-2.2	-1.5	-1.2	-1.3	-1.4	.0	-1.1	-5.2	-8.6	-11.2	-11.6	-9.2	-6.5	-6.2	-4.7	-3.0	-1.6	-1.3	-1.6
-6.4	-3.6	-3.8	-4.1	-2.9	-2.8	-3.5	-4.1	-5.0	-6.5	-8.7	-8.0	-6.8	-6.0	-6.5	-5.8	-6.9	-5.6	-6.7	-6.5	-6.8	-3.4	-.9	-3.1	-6.4	-7.6	-8.2	-10.3	-10.1	-9.2	-8.8	-9.6	-8.6	-8.2	-7.4	-7.4
-3.5	-2.8	-1.2	-.9	.0	.3	.4	.4	.0	-.5	-3.6	-3.6	-2.1	-1.6	-1.8	-.3	.0	.2	.0	-1.6	-1.9	-.5	-.9	-3.1	-6.8	-8.4	-9.7	-6.9	-4.9	-4.6	-7.0	-9.4	-10.6	-12.1	-10.4	-5.6
-1.9	-.6	-.6	.4	.6	.5	.4	.3	.1	.0	-.3	-.3	.0	.2	-.2	.3	.4	.5	.7	.8	.6	.4	.4	.2	-.1	-.5	-1.1	-2.0	-1.0	.3	-.3	-.6	-1.1	-4.7	-5.6	-3.4
-2.0	-4.6	-4.4	-2.9	-2.1	-1.2	-1.0	-.8	-.2	.0	.3	.6	-1.3	-.8	-.2	.1	.4	.5	.6	1.0	1.1	.2	.2	-.4	.3	.3	.5	.4	.0	.5	.6	.9	.3	-.4	-.5	-1.0
-1.2	-1.8	-2.5	-3.2	-3.7	-4.5	-5.6	-5.0	-4.2	-3.8	-3.7	-3.2	-4.3	-4.2	-3.3	-2.5	-1.7	-1.4	-.7	-.2	-.1	-.4	-.6	-1.5	-1.3	-1.0	-.9	-.9	-.6	-.7	-.3	.3	-.4	-1.0	-.9	-1.6
-1.2	-1.2	-1.4	-1.5	-1.3	-1.5	-2.2	-2.7	-3.6	-3.6	-3.4	-2.8	-2.8	-3.1	-3.5	-4.1	-3.5	-3.3	-3.8	-3.3	-3.0	-2.7	-2.8	-2.7	-3.0	-3.3	-3.2	-3.5	-3.6	-3.2	-2.3	-1.5	-1.0	-.7	-1.1	-1.4
-1.4	-1.6	-1.9	-1.9	-1.9	-1.7	-1.0	-1.1	-1.9	-2.0	-1.8	-1.7	-1.4	-1.4	-1.5	-1.7	-1.6	-1.9	-2.2	-2.3	-2.6	-2.4	-1.8	-2.1	-2.2	-2.3	-2.6	-2.5	-3.2	-3.4	-3.7	-2.9	-2.7	-2.4	-1.9	-1.2
-1.3	-1.6	-2.0	-2.2	-2.1	-2.1	-1.8	-1.4	-1.6	-2.1	-2.2	-2.4	-2.3	-1.7	-1.4	-1.2	-1.3	-1.2	-1.3	-1.2	-1.4	-2.0	-1.4	-.8	-.4	-1.0	-1.5	-1.5	-1.5	-1.9	-1.8	-1.5	-1.6	-1.7	-2.0	-1.3
-1.1	-1.5	-2.2	-2.8	-2.4	-2.1	-1.8	-1.7	-1.8	-1.6	-3.3	-3.2	-3.2	-2.4	-2.0	-1.7	-1.6	-1.0	-1.1	-.9	-1.1	-.8	.0	.6	.1	-.4	.0	.5	.6	.7	.9	1.0	.6	.3	-.9	-.4
-1.3	-1.3	-1.6	-1.6	-1.2	-1.0	-.9	-1.0	.1	.5	.2	-.4	-.4	.3	.5	.5	.5	.4	.4	.5	.7	.7	1.0	1.4	1.5	1.5	1.4	1.4	1.2	1.1	.9	.8	.3	.3	-.7	-1.4

Figure 59. ATOVS SD O-B brightness temperature differences (deg C). JUNE 2006
Channel: HIRS15 (700 hPa)
NOAA18, using all observations



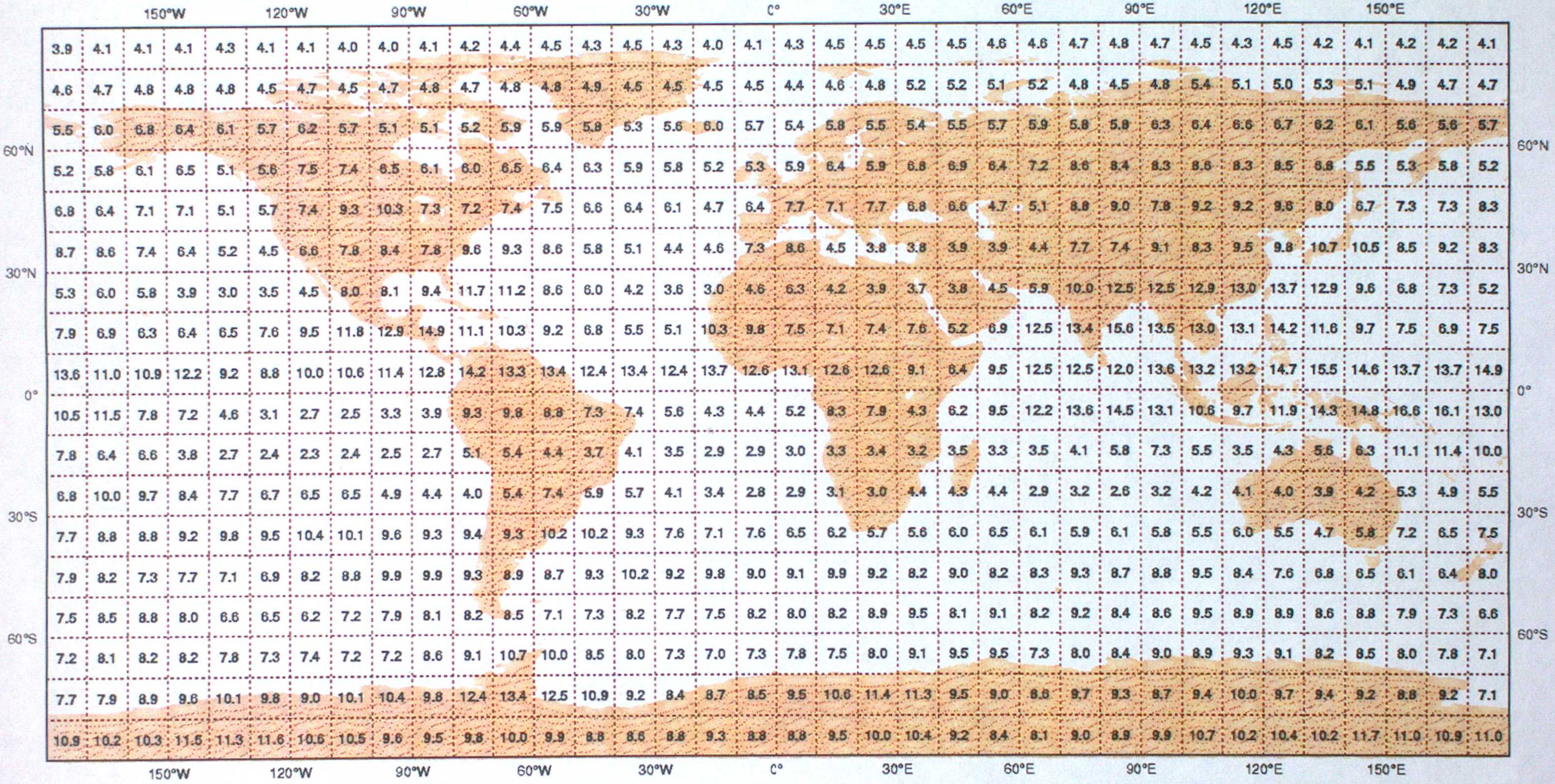
2.0	2.3	1.7	1.6	1.4	1.2	1.2	1.1	1.2	1.3	1.3	1.4	1.2	1.1	1.0	1.0	.9	.8	.8	.9	1.0	1.1	1.2	1.4	1.3	1.4	1.5	1.6	1.5	1.4	1.4	1.3	1.2	1.3	1.5	1.5
2.1	1.9	2.1	2.1	2.0	1.9	2.1	1.9	1.8	1.7	1.6	1.7	1.6	1.3	1.1	1.4	1.4	1.6	1.6	1.8	2.0	2.2	2.2	2.1	2.3	2.1	1.7	1.9	2.2	2.2	2.2	2.4	2.3	2.0	1.8	2.3
2.5	2.9	3.7	3.9	3.8	3.9	3.8	3.3	2.6	2.2	2.3	2.5	2.6	2.5	2.3	2.5	3.0	2.8	2.7	3.1	3.0	2.9	3.2	3.4	3.3	3.4	3.5	3.6	3.7	3.4	3.7	3.7	3.6	2.9	2.9	2.8
2.5	2.9	3.0	3.2	3.1	3.6	4.8	4.8	4.6	4.0	3.7	4.3	3.9	3.9	3.7	3.7	3.5	3.3	3.6	3.6	3.4	4.2	4.3	4.1	4.9	5.5	5.2	5.2	5.3	4.9	5.4	4.5	3.3	3.0	3.3	2.9
4.0	3.8	4.7	4.3	3.1	3.9	5.6	6.8	7.5	4.9	5.5	5.5	5.2	4.7	4.0	4.0	3.1	4.3	5.5	4.4	4.6	4.3	4.4	2.9	3.0	6.0	6.4	6.4	6.8	6.9	6.6	5.5	4.8	5.4	4.6	5.2
5.9	5.9	5.4	4.1	3.0	2.6	5.4	6.3	6.1	5.7	6.9	7.0	5.8	3.3	2.9	2.6	3.0	5.1	6.6	2.5	1.9	1.9	1.7	2.5	2.6	5.8	6.6	7.2	7.0	7.7	7.6	8.4	8.4	7.0	6.7	5.6
2.8	3.1	3.3	1.7	1.2	1.3	2.6	6.4	6.1	6.9	8.9	8.2	6.2	3.7	2.2	2.4	1.1	2.6	5.3	2.7	1.3	1.5	1.8	2.3	3.8	8.2	9.9	9.2	9.5	9.7	10.1	8.9	7.1	4.4	5.5	2.7
5.5	4.4	3.8	3.8	4.1	5.8	6.9	8.7	9.7	10.9	7.9	7.4	6.4	4.0	3.3	3.0	7.9	7.0	5.8	5.5	5.7	6.2	3.8	5.0	10.0	10.5	12.0	10.3	10.0	9.5	9.8	9.0	7.4	5.4	4.9	4.9
10.4	8.1	8.0	8.7	7.2	7.1	7.8	8.4	9.1	9.6	10.6	10.0	9.7	9.3	9.7	9.2	10.7	9.1	9.7	9.1	9.3	6.8	3.9	6.4	9.4	9.9	9.9	11.0	10.7	10.2	10.6	11.7	11.6	11.2	10.4	11.1
7.9	8.0	5.3	5.1	2.8	1.3	.8	.8	1.6	2.6	6.3	7.2	5.9	5.3	5.5	3.0	2.1	1.9	2.7	5.4	5.0	2.4	3.9	6.9	9.7	10.7	11.9	10.3	8.4	8.1	9.5	11.3	11.8	13.0	12.7	9.7
5.8	4.1	5.1	1.7	.7	.7	.7	.7	.8	.9	3.0	3.4	2.3	1.5	2.4	1.3	.7	.8	.4	1.1	1.3	1.2	1.2	1.3	1.9	2.7	4.1	5.1	4.0	1.8	3.2	3.5	3.9	8.7	8.8	7.4
5.0	8.0	7.8	6.1	5.6	4.7	4.8	4.4	2.8	2.3	1.8	2.8	5.2	4.2	3.2	1.9	1.2	1.0	.9	1.0	1.0	2.2	2.2	3.2	1.7	1.5	1.0	1.3	2.4	2.3	2.0	1.5	2.4	2.9	3.2	3.8
4.8	5.7	6.3	6.6	7.0	7.2	7.7	7.4	6.5	6.4	6.3	6.1	7.6	7.3	6.4	5.1	4.5	4.4	3.6	3.1	3.0	3.2	3.6	4.4	3.9	3.6	3.8	3.7	3.4	3.7	2.9	2.3	3.6	4.3	4.0	5.4
4.7	5.1	4.7	4.6	3.9	4.2	4.8	5.4	6.0	5.9	5.7	5.6	5.8	6.2	6.1	5.8	5.6	5.3	5.8	5.4	5.0	4.7	5.1	4.9	5.1	5.7	5.4	5.6	5.9	5.2	4.6	4.0	3.7	3.4	3.8	5.1
4.2	4.6	4.7	4.5	3.9	3.5	3.0	3.3	3.9	4.2	4.3	4.6	4.0	4.0	4.0	3.8	3.8	4.0	4.6	4.5	4.5	4.3	3.8	4.3	4.2	4.7	4.8	4.9	5.2	5.1	5.3	4.7	4.5	4.2	3.5	3.3
3.3	4.0	4.1	4.1	3.8	3.6	3.2	3.1	3.5	4.2	4.5	5.9	5.8	4.7	4.2	3.4	3.4	3.6	4.0	3.8	3.8	4.1	4.0	3.8	3.0	3.7	4.1	4.1	3.9	4.4	4.4	4.1	4.2	3.9	3.9	3.1
3.4	3.5	4.0	4.4	4.3	4.1	3.7	3.7	4.1	4.4	6.4	7.1	7.4	5.9	4.5	3.8	3.7	3.2	3.4	3.5	3.9	4.0	2.8	1.8	2.6	3.2	2.3	2.0	1.5	1.4	1.4	1.5	2.0	2.5	3.8	2.8
4.9	4.5	4.4	4.6	4.6	4.0	3.6	3.6	2.9	2.9	3.3	3.8	3.6	2.7	2.3	2.1	2.0	2.0	2.1	2.0	2.0	1.9	1.7	1.4	1.3	1.7	1.7	1.4	1.5	1.6	2.0	2.7	3.8	4.2	4.7	5.0

Figure 60. ATOVS MEAN O-B brightness temperature differences (deg C). JUNE 2006
Channel: HIRS11 (500 - 700 hPa)
NOAA18, using all observations



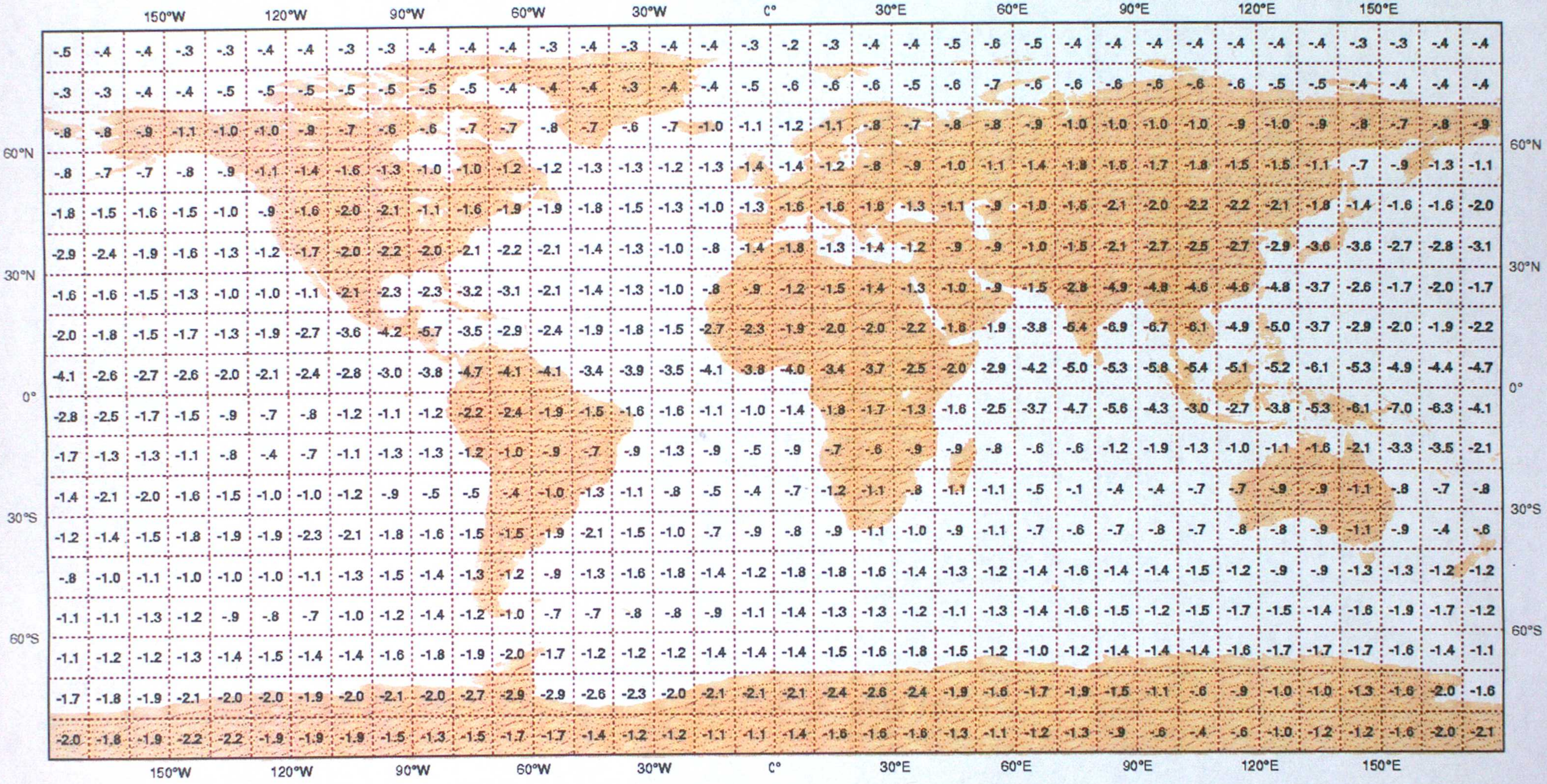
-2.5	-2.4	-2.3	-2.4	-2.6	-2.9	-2.8	-2.7	-2.9	-3.1	-3.2	-3.3	-3.0	-3.1	-2.7	-2.7	-2.4	-2.2	-1.9	-2.1	-2.3	-2.5	-2.9	-3.3	-3.1	-3.0	-3.3	-3.3	-3.1	-3.0	-3.1	-2.7	-2.4	-2.5	-2.6	-2.5
-2.2	-2.4	-2.5	-2.5	-2.4	-2.3	-2.7	-2.8	-3.0	-3.0	-2.8	-3.2	-3.5	-3.8	-3.1	-2.5	-2.2	-2.2	-2.4	-2.6	-2.8	-2.7	-2.8	-2.9	-2.7	-2.7	-2.5	-2.7	-3.2	-2.9	-2.8	-2.8	-2.3	-2.2	-2.2	-2.2
-2.7	-3.3	-4.3	-4.6	-4.1	-3.1	-2.9	-2.2	-2.4	-2.5	-3.0	-3.5	-3.7	-3.7	-2.6	-2.7	-3.4	-3.3	-3.3	-3.6	-2.7	-2.4	-2.3	-2.2	-2.2	-2.6	-2.6	-2.9	-3.2	-3.0	-3.2	-3.3	-3.3	-2.7	-3.2	-3.3
-2.2	-2.6	-3.1	-3.3	-2.6	-3.0	-4.0	-4.1	-3.5	-3.2	-3.3	-3.6	-3.4	-3.3	-3.2	-3.2	-2.8	-3.1	-3.3	-2.8	-2.1	-2.1	-2.4	-2.5	-3.1	-4.7	-4.2	-4.9	-5.1	-4.8	-4.8	-3.4	-1.8	-2.2	-3.1	-2.7
-4.2	-3.8	-4.4	-4.0	-1.9	-1.6	-3.7	-4.5	-5.2	-3.0	-4.6	-4.6	-4.4	-3.5	-2.8	-2.4	-1.4	-2.5	-4.0	-4.3	-3.5	-2.7	-1.5	.1	-.4	-3.9	-5.4	-5.0	-6.4	-6.2	-6.8	-5.0	-3.3	-3.9	-3.7	-4.9
-4.7	-4.3	-3.5	-2.2	-1.2	-.7	-3.2	-3.7	-3.7	-3.1	-4.3	-5.1	-4.1	-1.9	-1.7	-.9	-.7	-2.5	-3.9	-1.2	-1.1	-.6	-.2	.6	.8	-2.2	-3.9	-5.4	-5.6	-6.2	-7.3	-8.5	-8.2	-5.8	-6.0	-5.5
-1.2	-1.5	-1.5	-.7	-.1	-.1	-.6	-3.3	-3.2	-3.8	-6.7	-6.2	-3.7	-1.8	-1.0	-.2	.0	-1.8	-2.8	-1.6	-1.2	-.8	-1.6	-.4	-1.1	-4.4	-8.5	-8.9	-8.5	-8.8	-9.6	-6.9	-4.5	-2.3	-3.0	-1.5
-2.9	-2.5	-1.7	-1.8	-1.2	-2.1	-3.7	-6.3	-8.2	-11.7	-6.2	-4.9	-3.3	-2.3	-2.0	-1.5	-5.6	-4.9	-3.8	-4.4	-1.8	-.3	-.8	-1.7	-5.8	-9.8	-12.9	-13.4	-11.1	-9.0	-9.4	-6.7	-4.7	-2.5	-2.4	-2.9
-7.7	-4.5	-4.5	-4.7	-2.6	-3.0	-4.2	-4.9	-5.8	-7.6	-9.8	-9.1	-8.3	-6.7	-7.4	-6.9	-8.2	-6.7	-8.1	-6.5	-6.6	-2.5	-1.7	-4.5	-8.0	-9.5	-9.8	-11.9	-11.0	-11.2	-10.4	-11.9	-10.3	-9.4	-8.9	-9.0
-5.0	-4.2	-1.9	-1.6	-.3	.1	.0	-.4	-.5	-.6	-3.0	-4.4	-3.5	-3.3	-2.4	-1.4	-.8	-.7	-.8	-2.6	-3.1	-.4	-1.5	-4.2	-7.4	-9.4	-11.2	-8.3	-5.5	-4.6	-7.4	-10.9	-12.5	-14.3	-12.6	-7.8
-2.5	-1.3	-1.1	-.1	.5	.5	.2	-.5	-.8	-.9	-.9	-.1	-1.1	-1.2	-.9	-.6	-.3	.1	.1	-.4	-1.4	-.9	-.2	.2	.2	-.2	-1.6	-2.9	-1.5	-.3	-.7	-2.0	-2.7	-5.9	-6.8	-4.3
-2.7	-5.1	-4.8	-3.5	-2.6	-1.6	-1.6	-1.7	-1.0	-.4	.0	.3	-1.6	-1.5	-.9	-.6	.0	.2	-.1	-.6	-.5	-.3	-.9	-1.1	.0	.4	.3	.0	-.9	-.7	-.9	-.8	-1.3	-1.2	-.9	-1.3
-3.0	-3.6	-4.2	-5.3	-5.8	-6.2	-7.6	-6.9	-6.2	-5.4	-5.3	-5.4	-6.6	-6.4	-4.9	-3.5	-2.6	-2.5	-1.7	-1.4	-1.4	-1.8	-1.9	-2.7	-2.0	-1.6	-1.5	-1.8	-1.6	-2.0	-1.7	-1.4	-2.7	-2.5	-1.7	-2.5
-3.1	-3.1	-3.4	-3.4	-3.4	-3.6	-4.6	-5.4	-6.6	-6.4	-6.2	-5.5	-4.7	-5.4	-6.6	-7.1	-6.1	-5.5	-6.3	-6.0	-5.4	-5.2	-5.4	-5.0	-5.4	-6.0	-5.7	-6.0	-6.3	-5.4	-4.2	-3.2	-3.2	-2.9	-3.2	-3.8
-4.7	-4.9	-5.4	-5.1	-4.5	-4.1	-3.5	-3.9	-5.0	-5.4	-5.1	-4.9	-4.3	-4.5	-5.0	-5.3	-5.2	-5.9	-6.2	-6.3	-6.7	-6.5	-5.8	-6.1	-6.2	-6.7	-6.7	-6.1	-7.1	-7.1	-7.2	-6.4	-6.5	-6.6	-5.6	-4.4
-5.9	-6.4	-6.5	-6.7	-6.3	-6.4	-5.9	-5.4	-5.6	-6.5	-7.0	-7.2	-6.9	-6.1	-5.7	-5.9	-6.1	-5.7	-6.0	-6.0	-6.4	-7.6	-6.4	-5.1	-4.6	-5.7	-6.4	-6.5	-6.2	-6.8	-6.6	-6.4	-6.6	-7.0	-7.1	-5.8
-6.7	-7.4	-8.5	-9.3	-8.3	-7.8	-7.3	-7.3	-7.4	-6.6	-9.4	-9.2	-9.7	-8.6	-8.2	-7.2	-6.6	-5.8	-6.2	-6.8	-7.2	-5.9	-4.7	-3.4	-3.6	-4.8	-4.3	-2.7	-3.2	-4.1	-4.3	-3.1	-4.1	-4.6	-6.6	-6.0
-7.8	-7.5	-7.7	-7.8	-7.1	-6.4	-6.0	-6.0	-4.2	-2.9	-4.0	-5.2	-5.1	-3.7	-3.2	-3.3	-3.7	-3.9	-4.3	-4.6	-4.2	-4.5	-3.5	-2.9	-3.2	-3.4	-2.8	-2.5	-2.9	-3.5	-4.0	-3.4	-3.9	-3.7	-6.3	-7.9

Figure 61. ATOVS SD O-B brightness temperature differences (deg C). JUNE 2006
Channel: HIRS11 (500 - 700 hPa)
NOAA18, using all observations



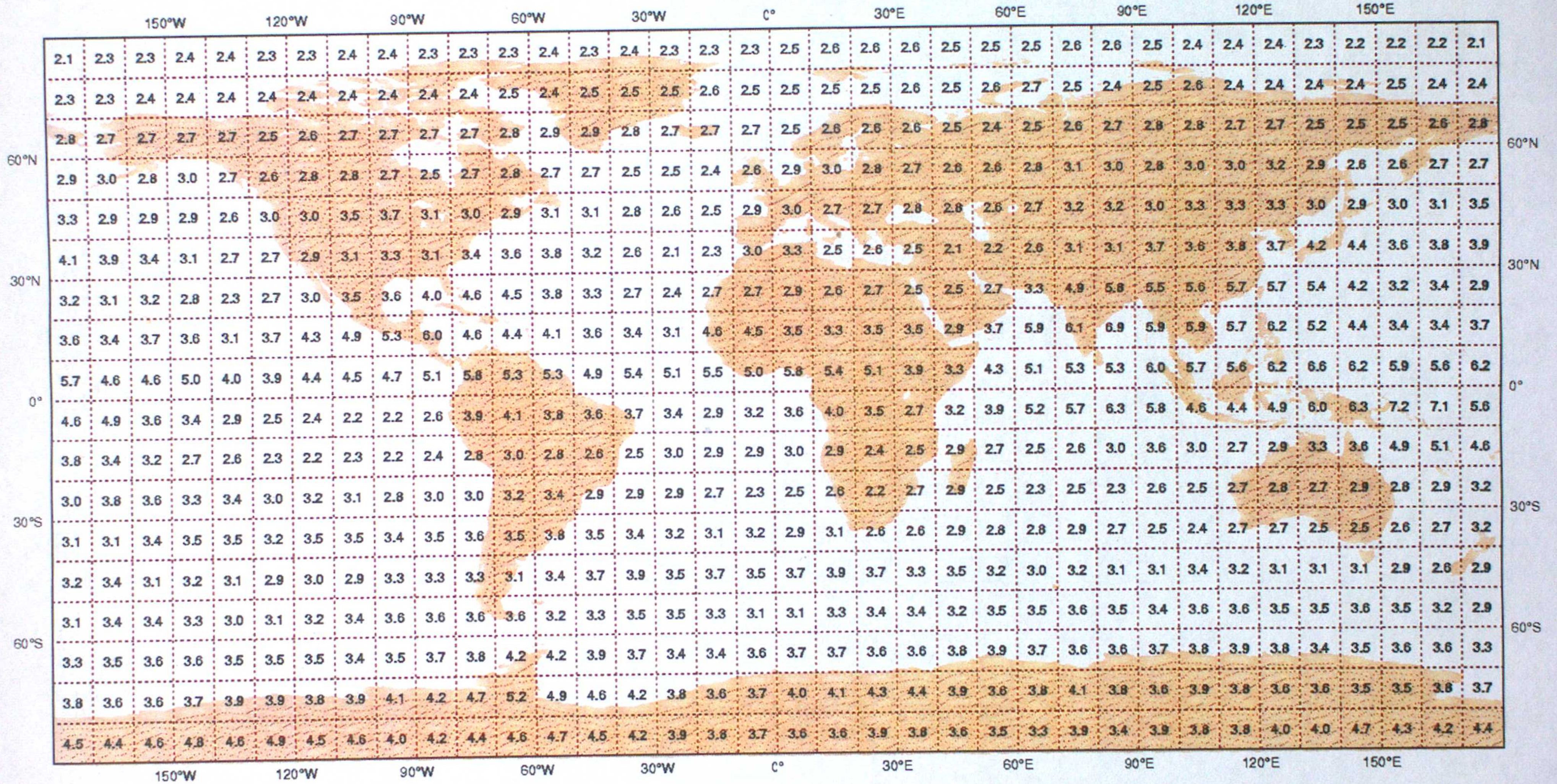
3.9	4.1	4.1	4.1	4.3	4.1	4.1	4.0	4.0	4.1	4.2	4.4	4.5	4.3	4.5	4.3	4.0	4.1	4.3	4.5	4.5	4.5	4.5	4.6	4.6	4.7	4.8	4.7	4.5	4.3	4.5	4.2	4.1	4.2	4.2	4.1
4.6	4.7	4.8	4.8	4.8	4.5	4.7	4.5	4.7	4.8	4.7	4.8	4.8	4.9	4.5	4.5	4.5	4.5	4.4	4.6	4.8	5.2	5.2	5.1	5.2	4.8	4.5	4.8	5.4	5.1	5.0	5.3	5.1	4.9	4.7	4.7
5.5	6.0	6.8	6.4	6.1	5.7	6.2	5.7	5.1	5.1	5.2	5.9	5.9	5.8	5.3	5.6	6.0	5.7	5.4	5.8	5.5	5.4	5.5	5.7	5.9	5.8	5.8	6.3	6.4	6.6	6.7	6.2	6.1	5.6	5.6	5.7
5.2	5.8	6.1	6.5	5.1	5.6	7.5	7.4	6.5	6.1	6.0	6.5	6.4	6.3	5.9	5.8	5.2	5.3	5.9	6.4	5.9	6.8	6.9	6.4	7.2	8.6	8.4	8.3	8.6	8.3	8.5	6.8	5.5	5.3	5.8	5.2
6.8	6.4	7.1	7.1	5.1	5.7	7.4	9.3	10.3	7.3	7.2	7.4	7.5	6.6	6.4	6.1	4.7	6.4	7.7	7.1	7.7	6.8	6.6	4.7	5.1	8.8	9.0	7.8	9.2	9.2	9.6	8.0	6.7	7.3	7.3	8.3
8.7	8.6	7.4	6.4	5.2	4.5	6.6	7.8	8.4	7.8	9.6	9.3	8.6	5.8	5.1	4.4	4.6	7.3	8.6	4.5	3.8	3.8	3.9	3.9	4.4	7.7	7.4	9.1	8.3	9.5	9.8	10.7	10.5	8.5	9.2	8.3
5.3	6.0	5.8	3.9	3.0	3.5	4.5	8.0	8.1	9.4	11.7	11.2	8.6	6.0	4.2	3.6	3.0	4.6	6.3	4.2	3.9	3.7	3.8	4.5	5.9	10.0	12.5	12.5	12.9	13.0	13.7	12.9	9.6	6.8	7.3	5.2
7.9	6.9	6.3	6.4	6.5	7.6	9.5	11.8	12.9	14.9	11.1	10.3	9.2	6.8	5.5	5.1	10.3	9.8	7.5	7.1	7.4	7.6	5.2	6.9	12.5	13.4	15.6	13.5	13.0	13.1	14.2	11.6	9.7	7.5	6.9	7.5
13.6	11.0	10.9	12.2	9.2	8.8	10.0	10.6	11.4	12.8	14.2	13.3	13.4	12.4	13.4	12.4	13.7	12.6	13.1	12.6	12.6	9.1	6.4	9.5	12.5	12.5	12.0	13.6	13.2	13.2	14.7	15.5	14.6	13.7	13.7	14.9
10.5	11.5	7.8	7.2	4.6	3.1	2.7	2.5	3.3	3.9	9.3	9.8	8.8	7.3	7.4	5.6	4.3	4.4	5.2	8.3	7.9	4.3	6.2	9.5	12.2	13.6	14.5	13.1	10.6	9.7	11.9	14.3	14.8	16.6	16.1	13.0
7.8	6.4	6.6	3.8	2.7	2.4	2.3	2.4	2.5	2.7	5.1	5.4	4.4	3.7	4.1	3.5	2.9	2.9	3.0	3.3	3.4	3.2	3.5	3.3	3.5	4.1	5.8	7.3	5.5	3.5	4.3	5.6	6.3	11.1	11.4	10.0
6.8	10.0	9.7	8.4	7.7	6.7	6.5	6.5	4.9	4.4	4.0	5.4	7.4	5.9	5.7	4.1	3.4	2.8	2.9	3.1	3.0	4.4	4.3	4.4	2.9	3.2	2.6	3.2	4.2	4.1	4.0	3.9	4.2	5.3	4.9	5.5
7.7	8.8	8.8	9.2	9.8	9.5	10.4	10.1	9.6	9.3	9.4	9.3	10.2	10.2	9.3	7.6	7.1	7.6	6.5	6.2	5.7	5.6	6.0	6.5	6.1	5.9	6.1	5.8	5.5	6.0	5.5	4.7	5.8	7.2	6.5	7.5
7.9	8.2	7.3	7.7	7.1	6.9	8.2	8.8	9.9	9.9	9.3	8.9	8.7	9.3	10.2	9.2	9.8	9.0	9.1	9.9	9.2	8.2	9.0	8.2	8.3	9.3	8.7	8.8	9.5	8.4	7.6	6.8	6.5	6.1	6.4	8.0
7.5	8.5	8.8	8.0	6.6	6.5	6.2	7.2	7.9	8.1	8.2	8.5	7.1	7.3	8.2	7.7	7.5	8.2	8.0	8.2	8.9	9.5	8.1	9.1	8.2	9.2	8.4	8.6	9.5	8.9	8.9	8.6	8.8	7.9	7.3	6.6
7.2	8.1	8.2	8.2	7.8	7.3	7.4	7.2	7.2	8.6	9.1	10.7	10.0	8.5	8.0	7.3	7.0	7.3	7.8	7.5	8.0	9.1	9.5	9.5	7.3	8.0	8.4	9.0	8.9	9.3	9.1	8.2	8.5	8.0	7.8	7.1
7.7	7.9	8.9	9.6	10.1	9.8	9.0	10.1	10.4	9.8	12.4	13.4	12.5	10.9	9.2	8.4	8.7	8.5	9.5	10.6	11.4	11.3	9.5	9.0	8.6	9.7	9.3	8.7	9.4	10.0	9.7	9.4	9.2	8.8	9.2	7.1
10.9	10.2	10.3	11.5	11.3	11.6	10.6	10.5	9.6	9.5	9.8	10.0	9.9	8.8	8.6	8.8	9.3	8.8	8.8	9.5	10.0	10.4	9.2	8.4	8.1	9.0	8.9	9.9	10.7	10.2	10.4	10.2	11.7	11.0	10.9	11.0

Figure 62. ATOVS MEAN O-B brightness temperature differences (deg C). JUNE 2006
Channel: HIRS4 (400 hPa)
NOAA18, using all observations



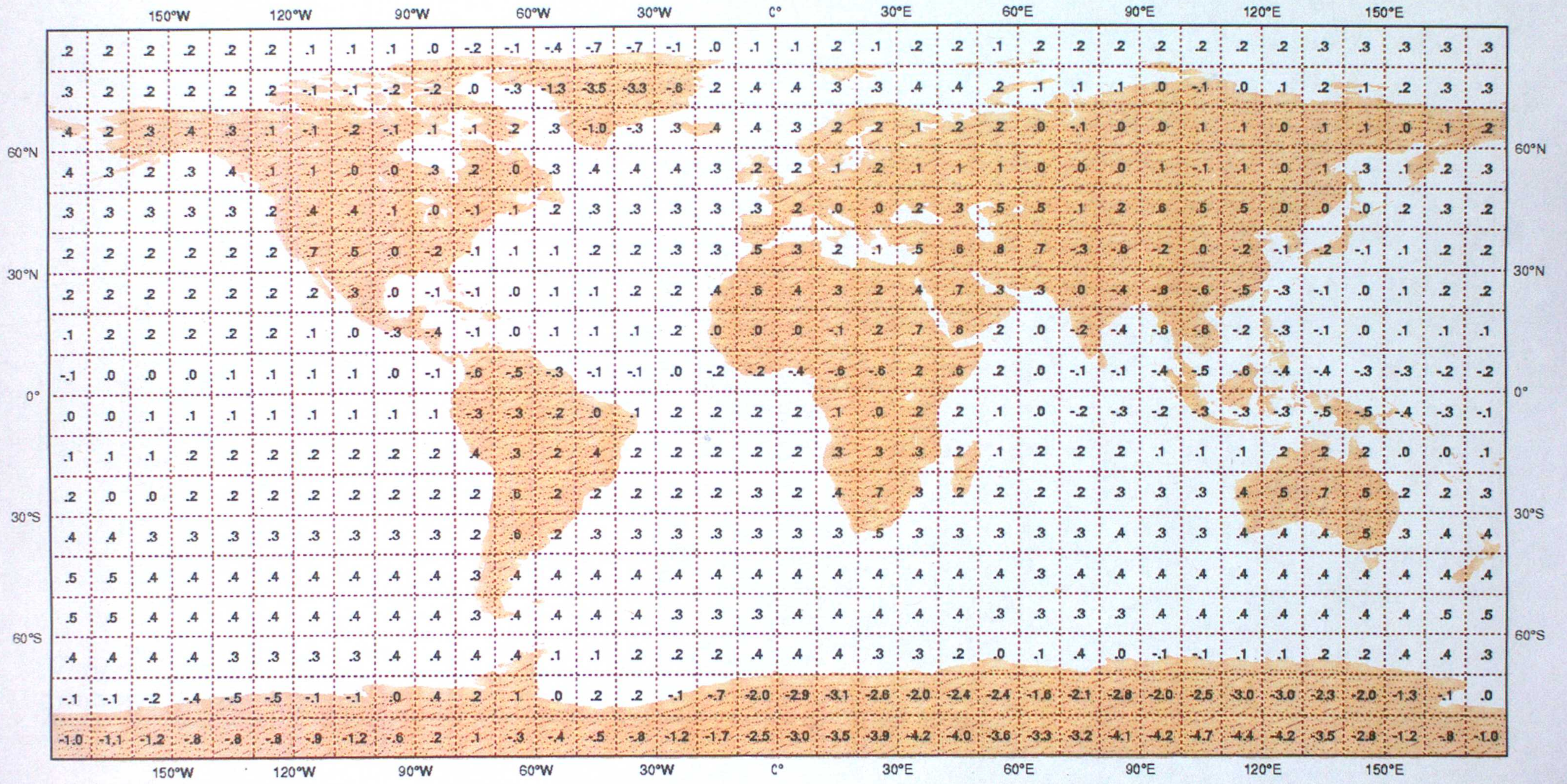
-.5	-.4	-.4	-.3	-.3	-.4	-.4	-.3	-.3	-.4	-.4	-.4	-.3	-.4	-.3	-.4	-.4	-.3	-.2	-.3	-.4	-.4	-.5	-.6	-.5	-.4	-.4	-.4	-.4	-.4	-.4	-.4	-.3	-.3	-.4	-.4
-.3	-.3	-.4	-.4	-.5	-.5	-.5	-.5	-.5	-.5	-.5	-.4	-.4	-.4	-.3	-.4	-.4	-.5	-.6	-.6	-.6	-.5	-.6	-.7	-.6	-.6	-.6	-.6	-.6	-.6	-.5	-.5	-.4	-.4	-.4	-.4
-.8	-.8	-.9	-1.1	-1.0	-1.0	-.9	-.7	-.6	-.6	-.7	-.7	-.8	-.7	-.6	-.7	-1.0	-1.1	-1.2	-1.1	-.8	-.7	-.8	-.8	-.9	-1.0	-1.0	-1.0	-1.0	-.9	-1.0	-.9	-.8	-.7	-.8	-.9
-.8	-.7	-.7	-.8	-.9	-1.1	-1.4	-1.6	-1.3	-1.0	-1.0	-1.2	-1.2	-1.3	-1.3	-1.2	-1.3	-1.4	-1.4	-1.2	-.8	-.9	-1.0	-1.1	-1.4	-1.8	-1.6	-1.7	-1.8	-1.5	-1.5	-1.1	-.7	-.9	-1.3	-1.1
-1.8	-1.5	-1.6	-1.5	-1.0	-.9	-1.6	-2.0	-2.1	-1.1	-1.6	-1.9	-1.9	-1.8	-1.5	-1.3	-1.0	-1.3	-1.6	-1.6	-1.6	-1.3	-1.1	-.9	-1.0	-1.6	-2.1	-2.0	-2.2	-2.2	-2.1	-1.8	-1.4	-1.6	-1.6	-2.0
-2.9	-2.4	-1.9	-1.6	-1.3	-1.2	-1.7	-2.0	-2.2	-2.0	-2.1	-2.2	-2.1	-1.4	-1.3	-1.0	-.8	-1.4	-1.8	-1.3	-1.4	-1.2	-.9	-.9	-1.0	-1.5	-2.1	-2.7	-2.5	-2.7	-2.9	-3.6	-3.6	-2.7	-2.8	-3.1
-1.6	-1.6	-1.5	-1.3	-1.0	-1.0	-1.1	-2.1	-2.3	-2.3	-3.2	-3.1	-2.1	-1.4	-1.3	-1.0	-.8	-.9	-1.2	-1.5	-1.4	-1.3	-1.0	-.9	-1.5	-2.8	-4.9	-4.8	-4.6	-4.6	-4.8	-3.7	-2.6	-1.7	-2.0	-1.7
-2.0	-1.8	-1.5	-1.7	-1.3	-1.9	-2.7	-3.6	-4.2	-5.7	-3.5	-2.9	-2.4	-1.9	-1.8	-1.5	-2.7	-2.3	-1.9	-2.0	-2.0	-2.2	-1.6	-1.9	-3.8	-5.4	-6.9	-6.7	-6.1	-4.9	-5.0	-3.7	-2.9	-2.0	-1.9	-2.2
-4.1	-2.6	-2.7	-2.6	-2.0	-2.1	-2.4	-2.8	-3.0	-3.8	-4.7	-4.1	-4.1	-3.4	-3.9	-3.5	-4.1	-3.8	-4.0	-3.4	-3.7	-2.5	-2.0	-2.9	-4.2	-5.0	-5.3	-5.8	-5.4	-5.1	-5.2	-6.1	-5.3	-4.9	-4.4	-4.7
-2.8	-2.5	-1.7	-1.5	-.9	-.7	-.8	-1.2	-1.1	-1.2	-2.2	-2.4	-1.9	-1.5	-1.6	-1.6	-1.1	-1.0	-1.4	-1.8	-1.7	-1.3	-1.6	-2.5	-3.7	-4.7	-5.6	-4.3	-3.0	-2.7	-3.8	-5.3	-6.1	-7.0	-6.3	-4.1
-1.7	-1.3	-1.3	-1.1	-.8	-.4	-.7	-1.1	-1.3	-1.3	-1.2	-1.0	-.9	-.7	-.9	-1.3	-.9	-.5	-.9	-.7	-.6	-.9	-.9	-.8	-.6	-.6	-1.2	-1.9	-1.3	-1.0	-1.1	-1.6	-2.1	-3.3	-3.5	-2.1
-1.4	-2.1	-2.0	-1.6	-1.5	-1.0	-1.0	-1.2	-.9	-.5	-.5	-.4	-1.0	-1.3	-1.1	-.8	-.5	-.4	-.7	-1.2	-1.1	-.8	-1.1	-1.1	-.5	-.1	-.4	-.4	-.7	-.7	-.9	-.9	-1.1	-.8	-.7	-.8
-1.2	-1.4	-1.5	-1.8	-1.9	-1.9	-2.3	-2.1	-1.8	-1.6	-1.5	-1.5	-1.9	-2.1	-1.5	-1.0	-.7	-.9	-.8	-.9	-1.1	-1.0	-.9	-1.1	-.7	-.6	-.7	-.8	-.7	-.8	-.8	-.9	-1.1	-.9	-.4	-.6
-.8	-1.0	-1.1	-1.0	-1.0	-1.0	-1.1	-1.3	-1.5	-1.4	-1.3	-1.2	-.9	-1.3	-1.6	-1.8	-1.4	-1.2	-1.8	-1.8	-1.6	-1.4	-1.3	-1.2	-1.4	-1.6	-1.4	-1.4	-1.5	-1.2	-.9	-.9	-1.3	-1.3	-1.2	-1.2
-1.1	-1.1	-1.3	-1.2	-.9	-.8	-.7	-1.0	-1.2	-1.4	-1.2	-1.0	-.7	-.7	-.8	-.8	-.9	-1.1	-1.4	-1.3	-1.3	-1.2	-1.1	-1.3	-1.4	-1.6	-1.5	-1.2	-1.5	-1.7	-1.5	-1.4	-1.6	-1.9	-1.7	-1.2
-1.1	-1.2	-1.2	-1.3	-1.4	-1.5	-1.4	-1.4	-1.6	-1.8	-1.9	-2.0	-1.7	-1.2	-1.2	-1.2	-1.4	-1.4	-1.4	-1.5	-1.6	-1.8	-1.5	-1.2	-1.0	-1.2	-1.4	-1.4	-1.4	-1.6	-1.7	-1.7	-1.7	-1.6	-1.4	-1.1
-1.7	-1.8	-1.9	-2.1	-2.0	-2.0	-1.9	-2.0	-2.1	-2.0	-2.7	-2.9	-2.9	-2.6	-2.3	-2.0	-2.1	-2.1	-2.1	-2.4	-2.6	-2.4	-1.9	-1.6	-1.7	-1.9	-1.5	-1.1	-.6	-.9	-1.0	-1.0	-1.3	-1.6	-2.0	-1.6
-2.0	-1.8	-1.9	-2.2	-2.2	-1.9	-1.9	-1.9	-1.5	-1.3	-1.5	-1.7	-1.7	-1.4	-1.2	-1.2	-1.1	-1.1	-1.4	-1.6	-1.6	-1.6	-1.3	-1.1	-1.2	-1.3	-.9	-.6	-.4	-.6	-1.0	-1.2	-1.2	-1.6	-2.0	-2.1

Figure 63. ATOVS SD O-B brightness temperature differences (deg C). JUNE 2006
Channel: HIRS4 (400 hPa)
NOAA18, using all observations



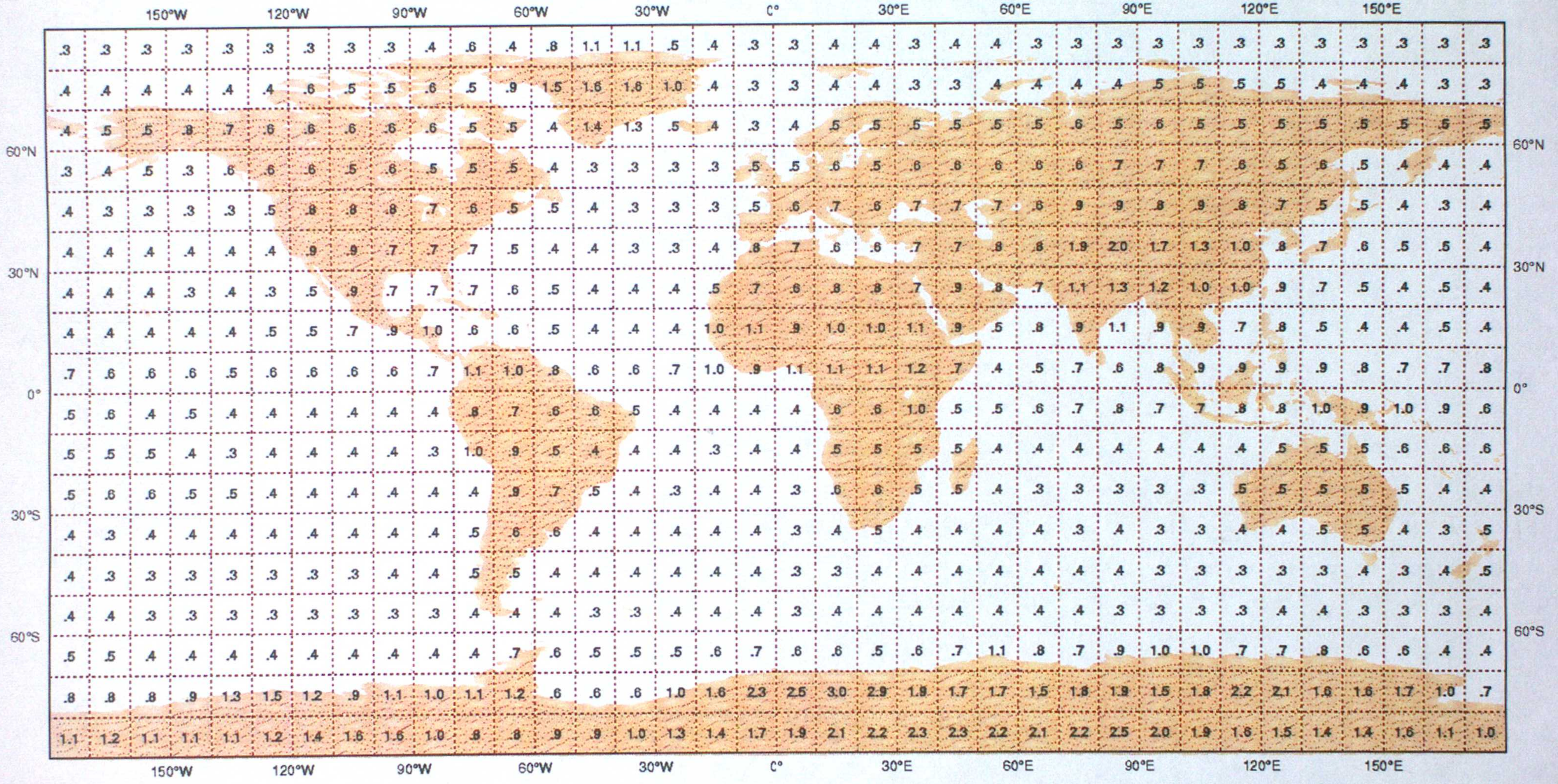
2.1	2.3	2.3	2.4	2.4	2.3	2.3	2.4	2.4	2.3	2.3	2.3	2.4	2.3	2.4	2.3	2.3	2.3	2.5	2.6	2.6	2.6	2.5	2.5	2.5	2.6	2.6	2.5	2.4	2.4	2.4	2.3	2.2	2.2	2.2	2.1
2.3	2.3	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.5	2.4	2.5	2.5	2.5	2.6	2.5	2.5	2.5	2.5	2.6	2.5	2.6	2.7	2.5	2.4	2.5	2.6	2.4	2.4	2.4	2.4	2.5	2.4	2.4
2.8	2.7	2.7	2.7	2.7	2.5	2.6	2.7	2.7	2.7	2.7	2.8	2.9	2.9	2.8	2.7	2.7	2.7	2.5	2.6	2.6	2.6	2.5	2.4	2.5	2.6	2.7	2.8	2.8	2.7	2.7	2.5	2.5	2.5	2.6	2.8
2.9	3.0	2.8	3.0	2.7	2.6	2.8	2.8	2.7	2.5	2.7	2.8	2.7	2.7	2.5	2.5	2.4	2.6	2.9	3.0	2.8	2.7	2.6	2.6	2.8	3.1	3.0	2.8	3.0	3.0	3.2	2.9	2.6	2.6	2.7	2.7
3.3	2.9	2.9	2.9	2.6	3.0	3.0	3.5	3.7	3.1	3.0	2.9	3.1	3.1	2.8	2.6	2.5	2.9	3.0	2.7	2.7	2.8	2.8	2.6	2.7	3.2	3.2	3.0	3.3	3.3	3.3	3.0	2.9	3.0	3.1	3.5
4.1	3.9	3.4	3.1	2.7	2.7	2.9	3.1	3.3	3.1	3.4	3.6	3.8	3.2	2.6	2.1	2.3	3.0	3.3	2.5	2.6	2.5	2.1	2.2	2.6	3.1	3.1	3.7	3.6	3.8	3.7	4.2	4.4	3.6	3.8	3.9
3.2	3.1	3.2	2.8	2.3	2.7	3.0	3.5	3.6	4.0	4.6	4.5	3.8	3.3	2.7	2.4	2.7	2.7	2.9	2.6	2.7	2.5	2.5	2.7	3.3	4.9	5.8	5.5	5.6	5.7	5.7	5.4	4.2	3.2	3.4	2.9
3.6	3.4	3.7	3.6	3.1	3.7	4.3	4.9	5.3	6.0	4.6	4.4	4.1	3.6	3.4	3.1	4.6	4.5	3.5	3.3	3.5	3.5	2.9	3.7	5.9	6.1	6.9	5.9	5.9	5.7	6.2	5.2	4.4	3.4	3.4	3.7
5.7	4.6	4.6	5.0	4.0	3.9	4.4	4.5	4.7	5.1	5.8	5.3	5.3	4.9	5.4	5.1	5.5	5.0	5.8	5.4	5.1	3.9	3.3	4.3	5.1	5.3	5.3	6.0	5.7	5.6	6.2	6.6	6.2	5.9	5.6	6.2
4.6	4.9	3.6	3.4	2.9	2.5	2.4	2.2	2.2	2.6	3.9	4.1	3.8	3.6	3.7	3.4	2.9	3.2	3.6	4.0	3.5	2.7	3.2	3.9	5.2	5.7	6.3	5.8	4.6	4.4	4.9	6.0	6.3	7.2	7.1	5.6
3.8	3.4	3.2	2.7	2.6	2.3	2.2	2.3	2.2	2.4	2.8	3.0	2.8	2.6	2.5	3.0	2.9	2.9	3.0	2.9	2.4	2.5	2.9	2.7	2.5	2.6	3.0	3.6	3.0	2.7	2.9	3.3	3.6	4.9	5.1	4.6
3.0	3.8	3.6	3.3	3.4	3.0	3.2	3.1	2.8	3.0	3.0	3.2	3.4	2.9	2.9	2.9	2.7	2.3	2.5	2.6	2.2	2.7	2.9	2.5	2.3	2.5	2.3	2.6	2.5	2.7	2.8	2.7	2.9	2.8	2.9	3.2
3.1	3.1	3.4	3.5	3.5	3.2	3.5	3.5	3.4	3.5	3.6	3.5	3.8	3.5	3.4	3.2	3.1	3.2	2.9	3.1	2.6	2.6	2.9	2.8	2.8	2.9	2.7	2.5	2.4	2.7	2.7	2.5	2.5	2.6	2.7	3.2
3.2	3.4	3.1	3.2	3.1	2.9	3.0	2.9	3.3	3.3	3.3	3.1	3.4	3.7	3.9	3.5	3.7	3.5	3.7	3.9	3.7	3.3	3.5	3.2	3.0	3.2	3.1	3.1	3.4	3.2	3.1	3.1	3.1	2.9	2.6	2.9
3.1	3.4	3.4	3.3	3.0	3.1	3.2	3.4	3.6	3.6	3.6	3.6	3.2	3.3	3.5	3.5	3.3	3.1	3.1	3.3	3.4	3.4	3.2	3.5	3.5	3.6	3.5	3.4	3.6	3.6	3.5	3.5	3.6	3.5	3.2	2.9
3.3	3.5	3.6	3.6	3.5	3.5	3.5	3.4	3.5	3.7	3.8	4.2	4.2	3.9	3.7	3.4	3.4	3.6	3.7	3.7	3.6	3.6	3.8	3.9	3.7	3.6	3.6	3.7	3.8	3.9	3.8	3.4	3.5	3.6	3.6	3.3
3.8	3.6	3.6	3.7	3.9	3.9	3.8	3.9	4.1	4.2	4.7	5.2	4.9	4.6	4.2	3.8	3.6	3.7	4.0	4.1	4.3	4.4	3.9	3.6	3.8	4.1	3.8	3.6	3.9	3.8	3.6	3.6	3.5	3.5	3.8	3.7
4.5	4.4	4.6	4.8	4.6	4.9	4.5	4.6	4.0	4.2	4.4	4.6	4.7	4.5	4.2	3.9	3.8	3.7	3.6	3.6	3.9	3.8	3.6	3.5	3.3	3.9	3.4	3.9	3.8	3.8	4.0	4.0	4.7	4.3	4.2	4.4

Figure 64. ATOVS MEAN O-B brightness temperature differences (deg C). JUNE 2006
Channel: AMSUA-5 (700 hPa)
NOAA18, using all observations



.2	.2	.2	.2	.2	.2	.1	.1	.1	.0	-.2	-.1	-.4	-.7	-.7	-.1	.0	.1	.1	.2	.1	.2	.2	.1	.2	.2	.2	.2	.2	.2	.2	.3	.3	.3	.3	.3
.3	.2	.2	.2	.2	.2	-.1	-.1	-.2	-.2	.0	-.3	-1.3	-3.5	-3.3	-.6	.2	.4	.4	.3	.3	.4	.4	.2	.1	.1	.1	.0	-.1	.0	.1	.2	.1	.2	.3	.3
.4	.2	.3	.4	.3	.1	-.1	-.2	-.1	.1	.1	.2	.3	-1.0	-.3	.3	.4	.4	.3	.2	.2	.1	.2	.2	.0	-.1	.0	.0	.1	.1	.0	.1	.1	.0	.1	.2
.4	.3	.2	.3	.4	.1	.1	.0	.0	.3	.2	.0	.3	.4	.4	.4	.3	.2	.2	.1	.2	.1	.1	.1	.0	.0	.0	.1	-.1	.1	.0	.1	.3	.1	.2	.3
.3	.3	.3	.3	.3	.2	.4	.4	.1	.0	-.1	.1	.2	.3	.3	.3	.3	.3	.2	.0	.0	.2	.3	.5	.5	.1	.2	.6	.5	.5	.0	.0	.0	.2	.3	.2
.2	.2	.2	.2	.2	.2	.7	.5	.0	-.2	-.1	.1	.1	.2	.2	.3	.3	.5	.3	.2	.1	.5	.6	.8	.7	-.3	-.6	-.2	.0	-.2	-.1	-.2	-.1	.1	.2	.2
.2	.2	.2	.2	.2	.2	.2	.3	.0	-.1	-.1	.0	.1	.1	.2	.2	.4	.6	.4	.3	.2	.4	.7	.3	.3	.0	-.4	-.8	-.6	-.5	-.3	-.1	.0	.1	.2	.2
.1	.2	.2	.2	.2	.2	.1	.0	-.3	-.4	-.1	.0	.1	.1	.1	.2	.0	.0	.0	-.1	.2	.7	.6	.2	.0	-.2	-.4	-.6	-.6	-.2	-.3	-.1	.0	.1	.1	.1
-.1	.0	.0	.0	.1	.1	.1	.1	.0	-.1	-.6	-.5	-.3	-.1	-.1	.0	-.2	-.2	-.4	-.6	-.6	.2	.6	.2	.0	-.1	-.1	-.4	-.5	-.6	-.4	-.4	-.3	-.3	-.2	-.2
.0	.0	.1	.1	.1	.1	.1	.1	.1	.1	-.3	-.3	-.2	.0	.1	.2	.2	.2	.2	.1	.0	.2	.2	.1	.0	-.2	-.3	-.2	-.3	-.3	-.3	-.5	-.5	-.4	-.3	-.1
.1	.1	.1	.2	.2	.2	.2	.2	.2	.2	.4	.3	.2	.4	.2	.2	.2	.2	.2	.3	.3	.3	.2	.1	.2	.2	.2	.1	.1	.1	.2	.2	.2	.0	.0	.1
.2	.0	.0	.2	.2	.2	.2	.2	.2	.2	.2	.6	.2	.2	.2	.2	.2	.3	.2	.4	.7	.3	.2	.2	.2	.2	.3	.3	.3	.4	.5	.7	.5	.2	.2	.3
.4	.4	.3	.3	.3	.3	.3	.3	.3	.3	.2	.6	.2	.3	.3	.3	.3	.3	.3	.3	.5	.3	.3	.3	.3	.3	.4	.3	.3	.4	.4	.4	.5	.3	.4	.4
.5	.5	.4	.4	.4	.4	.4	.4	.4	.4	.3	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.3	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4
.5	.5	.4	.4	.4	.4	.4	.4	.4	.4	.3	.4	.4	.4	.4	.3	.3	.3	.4	.4	.4	.4	.4	.3	.3	.3	.3	.4	.4	.4	.4	.4	.4	.4	.5	.5
.4	.4	.4	.4	.3	.3	.3	.3	.4	.4	.4	.4	.1	.1	.2	.2	.2	.4	.4	.4	.3	.3	.2	.0	.1	.4	.0	-.1	-.1	.1	.1	.2	.2	.4	.4	.3
-.1	-.1	-.2	-.4	-.5	-.5	-.1	-.1	.0	.4	.2	.1	.0	.2	.2	-.1	-.7	-2.0	-2.9	-3.1	-2.6	-2.0	-2.4	-2.4	-1.6	-2.1	-2.8	-2.0	-2.5	-3.0	-3.0	-2.3	-2.0	-1.3	-.1	.0
-1.0	-1.1	-1.2	-.8	-.8	-.8	-.9	-1.2	-.6	.2	.1	-.3	-.4	-.5	-.8	-1.2	-1.7	-2.5	-3.0	-3.5	-3.9	-4.2	-4.0	-3.6	-3.3	-3.2	-4.1	-4.2	-4.7	-4.4	-4.2	-3.5	-2.8	-1.2	-.8	-1.0

Figure 65. ATOVS SD O-B brightness temperature differences (deg C). JUNE 2006
Channel: AMSUA-5 (700 hPa)
NOAA18, using all observations



.3	.3	.3	.3	.3	.3	.3	.3	.3	.4	.6	.4	.8	1.1	1.1	.5	.4	.3	.3	.4	.4	.3	.4	.4	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3
.4	.4	.4	.4	.4	.4	.6	.5	.5	.6	.5	.9	1.5	1.6	1.6	1.0	.4	.3	.3	.4	.4	.3	.3	.4	.4	.4	.4	.5	.5	.5	.5	.4	.4	.4	.3	.3
.4	.5	.5	.8	.7	.6	.6	.6	.6	.6	.5	.5	.4	1.4	1.3	.5	.4	.3	.4	.5	.5	.5	.5	.5	.5	.6	.5	.6	.5	.5	.5	.5	.5	.5	.5	.5
.3	.4	.5	.3	.6	.6	.6	.5	.6	.5	.5	.5	.4	.3	.3	.3	.3	.5	.5	.6	.5	.6	.6	.6	.6	.6	.7	.7	.7	.6	.5	.6	.5	.4	.4	.4
.4	.3	.3	.3	.3	.5	.8	.8	.8	.7	.6	.5	.5	.4	.3	.3	.3	.5	.6	.7	.6	.7	.7	.7	.6	.9	.9	.8	.9	.8	.7	.5	.5	.4	.3	.4
.4	.4	.4	.4	.4	.4	.9	.9	.7	.7	.7	.5	.4	.4	.3	.3	.4	.8	.7	.6	.6	.7	.7	.8	.8	1.9	2.0	1.7	1.3	1.0	.8	.7	.6	.5	.5	.4
.4	.4	.4	.3	.4	.3	.5	.9	.7	.7	.7	.6	.5	.4	.4	.4	.5	.7	.6	.8	.8	.7	.9	.8	.7	1.1	1.3	1.2	1.0	1.0	.9	.7	.5	.4	.5	.4
.4	.4	.4	.4	.4	.5	.5	.7	.9	1.0	.6	.6	.5	.4	.4	.4	1.0	1.1	.9	1.0	1.0	1.1	.9	.5	.8	.9	1.1	.9	.9	.7	.8	.5	.4	.4	.5	.4
.7	.6	.6	.6	.5	.6	.6	.6	.6	.7	1.1	1.0	.8	.6	.6	.7	1.0	.9	1.1	1.1	1.1	1.2	.7	.4	.5	.7	.6	.8	.9	.9	.9	.9	.8	.7	.7	.8
.5	.6	.4	.5	.4	.4	.4	.4	.4	.4	.8	.7	.6	.6	.5	.4	.4	.4	.4	.6	.6	1.0	.5	.5	.6	.7	.8	.7	.7	.8	.8	1.0	.9	1.0	.9	.6
.5	.5	.5	.4	.3	.4	.4	.4	.4	.3	1.0	.9	.5	.4	.4	.4	.3	.4	.4	.5	.5	.5	.5	.4	.4	.4	.4	.4	.4	.4	.5	.5	.5	.6	.6	.6
.5	.6	.6	.5	.5	.4	.4	.4	.4	.4	.4	.9	.7	.5	.4	.3	.4	.4	.3	.6	.6	.5	.5	.4	.3	.3	.3	.3	.3	.5	.5	.5	.5	.5	.4	.4
.4	.3	.4	.4	.4	.4	.4	.4	.4	.4	.5	.6	.6	.4	.4	.4	.4	.4	.3	.4	.5	.4	.4	.4	.4	.3	.4	.3	.3	.4	.4	.5	.5	.4	.3	.5
.4	.3	.3	.3	.3	.3	.3	.3	.4	.4	.5	.5	.4	.4	.4	.4	.4	.3	.3	.4	.4	.4	.4	.4	.4	.4	.4	.3	.3	.3	.3	.3	.4	.3	.4	.5
.4	.4	.3	.3	.3	.3	.3	.3	.3	.3	.4	.4	.4	.3	.3	.4	.4	.4	.3	.4	.4	.4	.4	.4	.4	.4	.3	.3	.3	.3	.4	.4	.3	.3	.3	.4
.5	.5	.4	.4	.4	.4	.4	.4	.4	.4	.4	.7	.6	.5	.5	.5	.6	.7	.6	.6	.5	.6	.7	1.1	.8	.7	.9	1.0	1.0	.7	.7	.8	.6	.6	.4	.4
.8	.8	.8	.9	1.3	1.5	1.2	.9	1.1	1.0	1.1	1.2	.6	.6	.6	1.0	1.6	2.3	2.5	3.0	2.9	1.9	1.7	1.7	1.5	1.8	1.9	1.5	1.8	2.2	2.1	1.6	1.6	1.7	1.0	.7
1.1	1.2	1.1	1.1	1.1	1.2	1.4	1.6	1.6	1.0	.8	.8	.9	.9	1.0	1.3	1.4	1.7	1.9	2.1	2.2	2.3	2.3	2.2	2.1	2.2	2.5	2.0	1.9	1.6	1.5	1.4	1.4	1.6	1.1	1.0

Figure 66. ATOVS MEAN O-B brightness temperature differences (deg C). JUNE 2006
Channel: AMSUA-7 (300 hPa)
NOAA18, using all observations

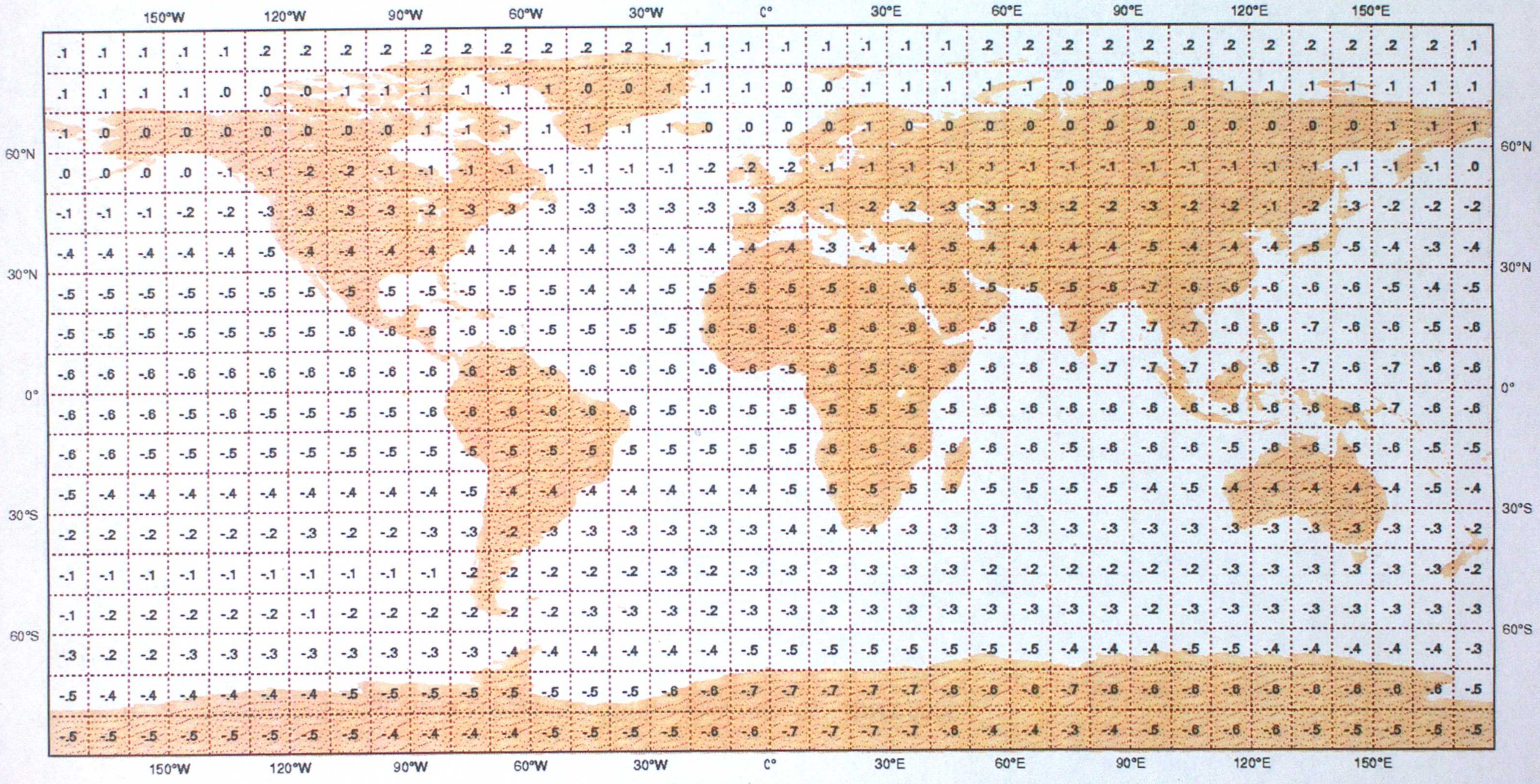

150°W
120°W
90°W
60°W
30°W
0°
30°E
60°E
90°E
120°E
150°E
60°N
30°N
0°
30°S
60°S

Figure 67. ATOVS SD O-B brightness temperature differences (deg C). JUNE 2006
Channel: AMSUA-7 (300 hPa)
NOAA18, using all observations

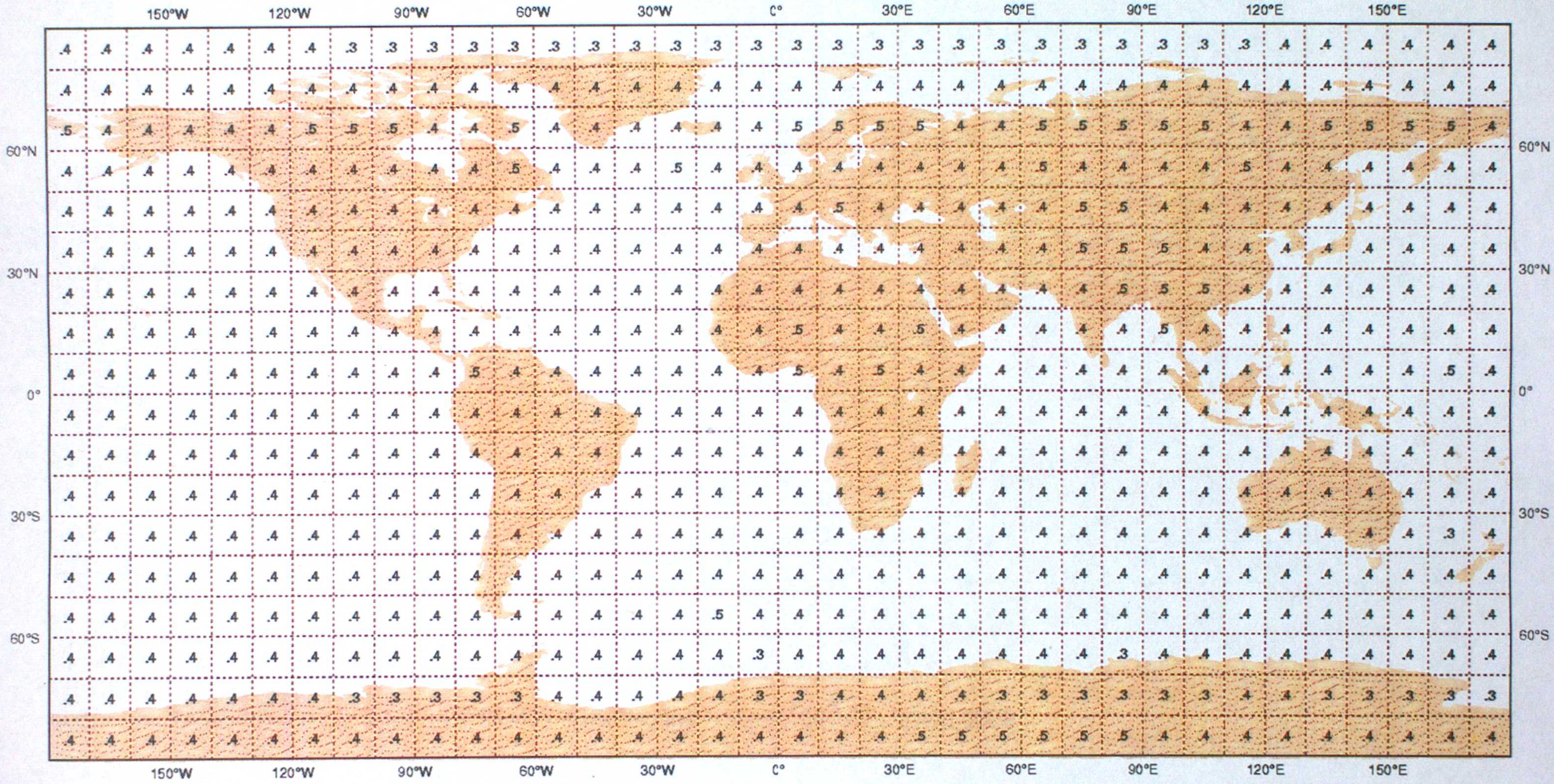
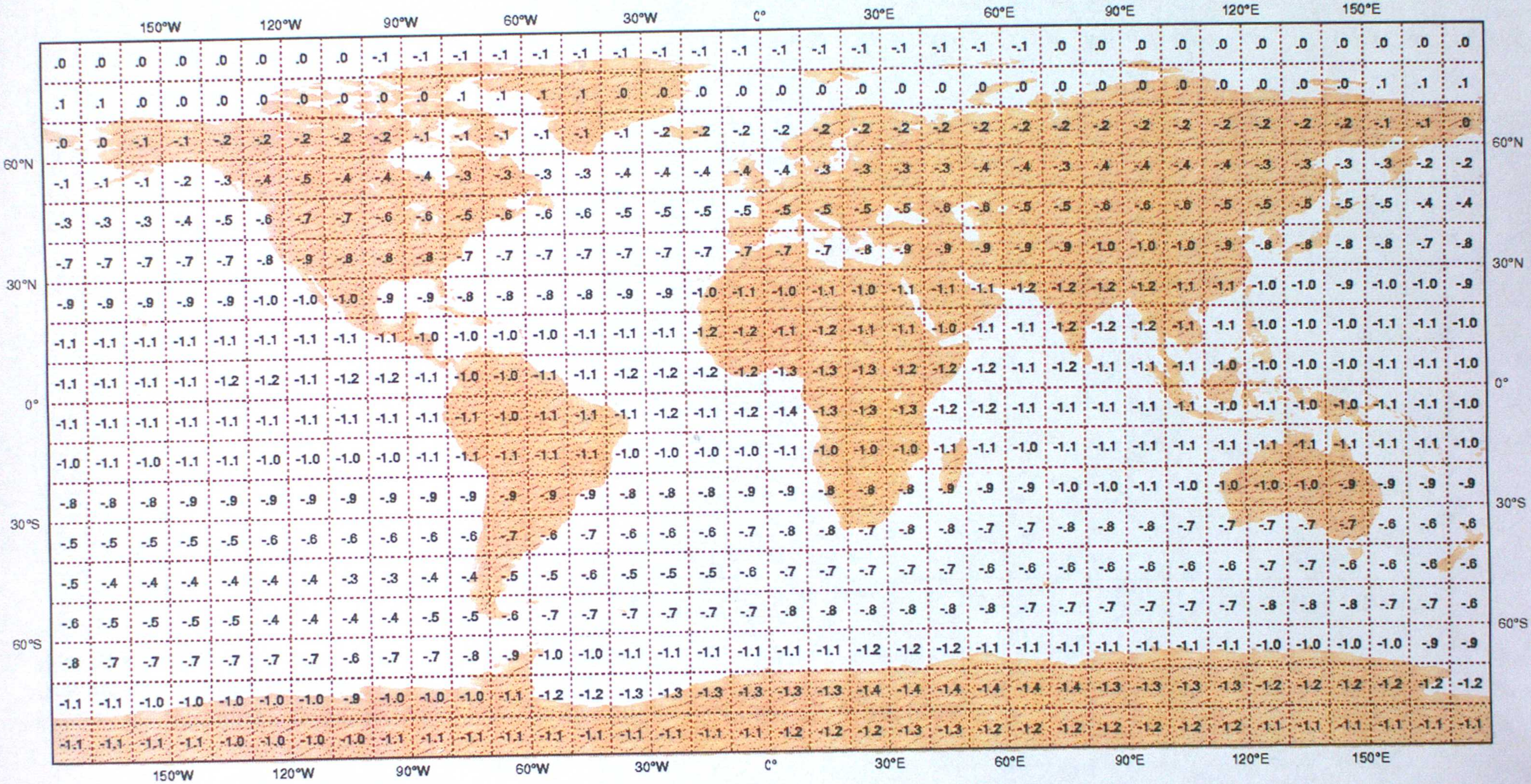
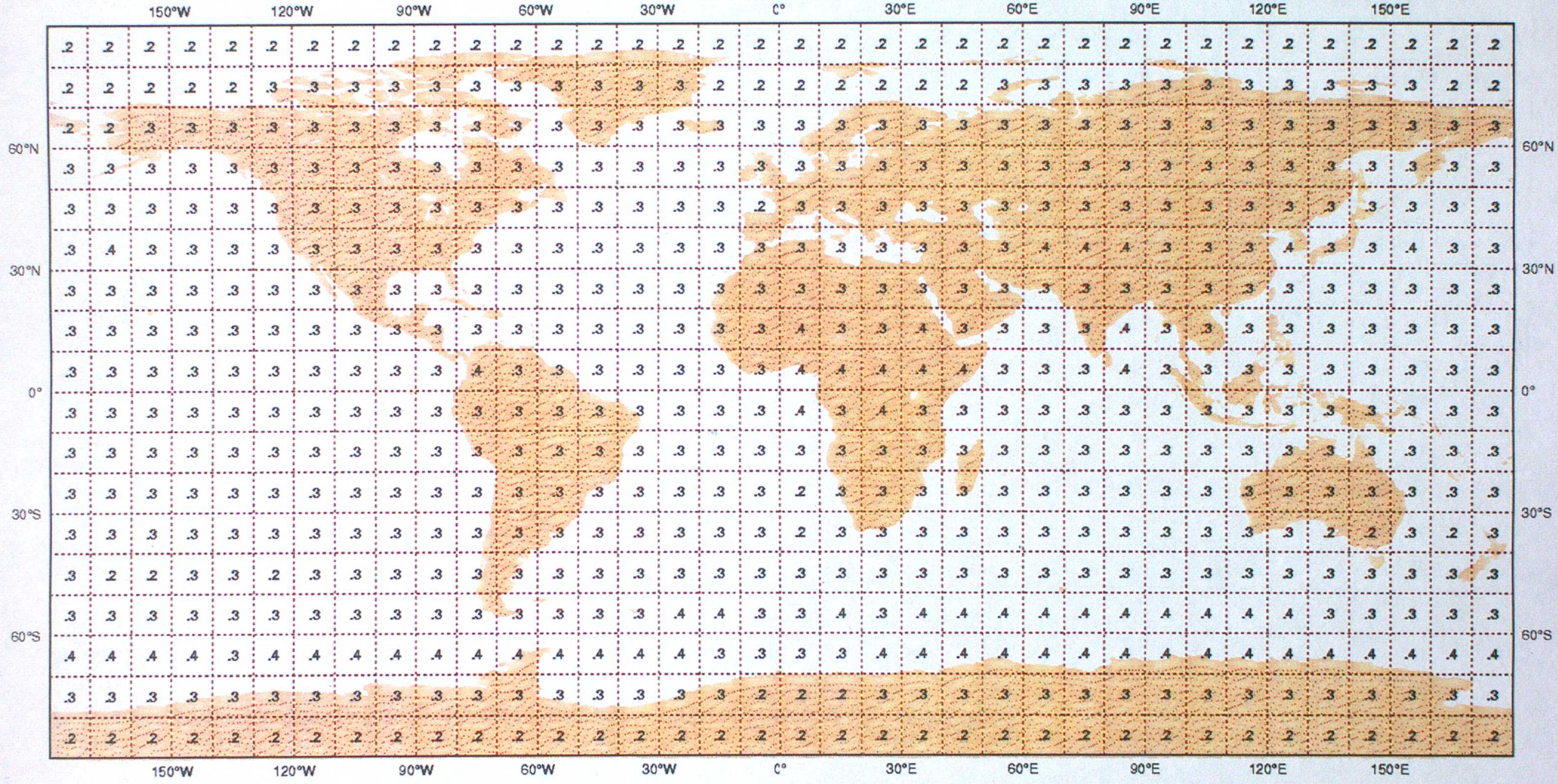

150°W
120°W
90°W
60°W
30°W
0°
30°E
60°E
90°E
120°E
150°E
60°N
30°N
0°
30°S
60°S
.4 .4 .4 .4 .4 .4 .4 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .4 .4 .4 .4 .4 .4
.4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4
.5 .4 .4 .4 .4 .4 .5 .5 .5 .4 .4 .5 .4 .4 .4 .4 .4 .4 .5 .5 .5 .5 .4 .4 .5 .5 .5 .5 .5 .4 .4 .5 .5 .5 .5 .4
.4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .5 .4 .4 .4 .5 .4 .4 .4 .4 .4 .4 .4 .4 .5 .4 .4 .4 .4 .5 .4 .4 .4 .4 .4 .4
.4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .5 .4 .4 .4 .4 .4 .5 .5 .4 .4 .4 .4 .4 .4 .4 .4 .4
.4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .5 .5 .5 .4 .4 .4 .4 .4 .4 .4 .4
.4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .5 .5 .5 .4 .4 .4 .4 .4 .4 .4
.4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .5 .4 .4 .5 .4 .4 .4 .4 .4 .5 .4 .4 .4 .4 .4 .4 .4 .4
.4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .5 .4 .4 .4 .4 .4 .4 .4 .5 .4 .5 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .5 .4
.4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4
.4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4
.4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4
.4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .3 .4
.4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4
.4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .5 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4
.4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .3 .4 .4 .4 .4 .4 .4 .4 .4 .3 .4 .4 .4 .4 .4 .4 .4 .4 .4
.4 .4 .4 .4 .4 .4 .4 .3 .3 .3 .3 .3 .4 .4 .4 .4 .4 .3 .3 .4 .4 .4 .4 .3 .3 .3 .3 .3 .3 .4 .4 .3 .3 .3 .3 .3
.4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .5 .5 .5 .5 .5 .5 .4 .4 .4 .4 .4 .4 .4 .4 .4

Figure 68. ATOVS MEAN O-B brightness temperature differences (deg C). JUNE 2006
Channel: AMSUA-9 (100 hPa)
NOAA18, using all observations



.0	.0	.0	.0	.0	.0	.0	.0	-.1	-.1	-.1	-.1	-.1	-.1	-.1	-.1	-.1	-.1	-.1	-.1	-.1	-.1	-.1	-.1	-.1	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
.1	.1	.0	.0	.0	.0	.0	.0	.0	.0	.1	.1	.1	.1	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.1	.1	.1
.0	.0	-.1	-.1	-.2	-.2	-.2	-.2	-.2	-.1	-.1	-.1	-.1	-.1	-.1	-.2	-.2	-.2	-.2	-.2	-.2	-.2	-.2	-.2	-.2	-.2	-.2	-.2	-.2	-.2	-.2	-.2	-.2	-.1	-.1	.0
-.1	-.1	-.1	-.2	-.3	-.4	-.5	-.4	-.4	-.4	-.3	-.3	-.3	-.3	-.4	-.4	-.4	-.4	-.4	-.3	-.3	-.3	-.3	-.4	-.4	-.3	-.4	-.4	-.4	-.4	-.3	-.3	-.3	-.3	-.2	-.2
-.3	-.3	-.3	-.4	-.5	-.6	-.7	-.7	-.6	-.6	-.5	-.6	-.6	-.6	-.5	-.5	-.5	-.5	-.5	-.5	-.5	-.5	-.6	-.6	-.5	-.5	-.6	-.6	-.6	-.5	-.5	-.5	-.5	-.5	-.4	-.4
-.7	-.7	-.7	-.7	-.7	-.8	-.9	-.8	-.8	-.8	-.7	-.7	-.7	-.7	-.7	-.7	-.7	-.7	-.7	-.7	-.8	-.9	-.9	-.9	-.9	-.9	-1.0	-1.0	-1.0	-.9	-.8	-.8	-.8	-.8	-.7	-.8
-.9	-.9	-.9	-.9	-.9	-1.0	-1.0	-1.0	-.9	-.9	-.8	-.8	-.8	-.8	-.9	-.9	-1.0	-1.1	-1.0	-1.1	-1.0	-1.1	-1.1	-1.1	-1.2	-1.2	-1.2	-1.2	-1.1	-1.1	-1.0	-1.0	-.9	-1.0	-1.0	-.9
-1.1	-1.1	-1.1	-1.1	-1.1	-1.1	-1.1	-1.1	-1.1	-1.0	-1.0	-1.0	-1.0	-1.1	-1.1	-1.1	-1.2	-1.2	-1.1	-1.2	-1.1	-1.1	-1.0	-1.1	-1.1	-1.2	-1.2	-1.2	-1.1	-1.1	-1.0	-1.0	-1.0	-1.1	-1.1	-1.0
-1.1	-1.1	-1.1	-1.1	-1.2	-1.2	-1.1	-1.2	-1.2	-1.1	-1.0	-1.0	-1.1	-1.1	-1.2	-1.2	-1.2	-1.2	-1.3	-1.3	-1.3	-1.2	-1.2	-1.2	-1.1	-1.2	-1.1	-1.1	-1.1	-1.0	-1.0	-1.0	-1.0	-1.1	-1.1	-1.0
-1.1	-1.1	-1.1	-1.1	-1.1	-1.1	-1.1	-1.1	-1.1	-1.1	-1.1	-1.0	-1.1	-1.1	-1.1	-1.2	-1.1	-1.2	-1.4	-1.3	-1.3	-1.3	-1.2	-1.2	-1.1	-1.1	-1.1	-1.1	-1.1	-1.0	-1.1	-1.0	-1.0	-1.1	-1.1	-1.0
-1.0	-1.1	-1.0	-1.1	-1.1	-1.0	-1.0	-1.0	-1.0	-1.1	-1.1	-1.1	-1.1	-1.1	-1.0	-1.0	-1.0	-1.0	-1.1	-1.0	-1.0	-1.0	-1.1	-1.1	-1.0	-1.1	-1.1	-1.1	-1.1	-1.1	-1.1	-1.1	-1.1	-1.1	-1.1	-1.0
-.8	-.8	-.8	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.8	-.8	-.8	-.9	-.9	-.8	-.8	-.8	-.9	-.9	-.9	-1.0	-1.0	-1.1	-1.0	-1.0	-1.0	-1.0	-.9	-.9	-.9	-.9
-.5	-.5	-.5	-.5	-.5	-.6	-.6	-.6	-.6	-.6	-.6	-.7	-.6	-.7	-.6	-.6	-.6	-.7	-.8	-.8	-.7	-.8	-.8	-.7	-.7	-.8	-.8	-.8	-.7	-.7	-.7	-.7	-.7	-.6	-.6	-.6
-.5	-.4	-.4	-.4	-.4	-.4	-.4	-.3	-.3	-.4	-.4	-.5	-.5	-.6	-.5	-.5	-.5	-.6	-.7	-.7	-.7	-.7	-.7	-.6	-.6	-.6	-.6	-.6	-.6	-.6	-.7	-.7	-.6	-.6	-.6	-.6
-.6	-.5	-.5	-.5	-.5	-.4	-.4	-.4	-.4	-.5	-.5	-.6	-.7	-.7	-.7	-.7	-.7	-.7	-.8	-.8	-.8	-.8	-.8	-.8	-.7	-.7	-.7	-.7	-.7	-.7	-.8	-.8	-.8	-.7	-.7	-.6
-.8	-.7	-.7	-.7	-.7	-.7	-.7	-.6	-.7	-.7	-.8	-.9	-1.0	-1.0	-1.1	-1.1	-1.1	-1.1	-1.1	-1.1	-1.2	-1.2	-1.2	-1.1	-1.1	-1.1	-1.1	-1.1	-1.1	-1.1	-1.0	-1.0	-1.0	-1.0	-.9	-.9
-1.1	-1.1	-1.0	-1.0	-1.0	-1.0	-1.0	-.9	-1.0	-1.0	-1.0	-1.1	-1.2	-1.2	-1.3	-1.3	-1.3	-1.3	-1.3	-1.3	-1.4	-1.4	-1.4	-1.4	-1.4	-1.4	-1.3	-1.3	-1.3	-1.3	-1.2	-1.2	-1.2	-1.2	-1.2	-1.2
-1.1	-1.1	-1.1	-1.1	-1.0	-1.0	-1.0	-1.0	-1.1	-1.1	-1.1	-1.1	-1.1	-1.1	-1.1	-1.1	-1.1	-1.1	-1.2	-1.2	-1.2	-1.3	-1.3	-1.2	-1.2	-1.2	-1.2	-1.2	-1.2	-1.2	-1.2	-1.2	-1.1	-1.1	-1.1	-1.1

Figure 69. ATOVS SD O-B brightness temperature differences (deg C). JUNE 2006
Channel: AMSUA-9 (100 hPa)
NOAA18, using all observations



.2	.2	.2	.2	.2	.2	.2	.2	.2	.2	.2	.2	.2	.2	.2	.2	.2	.2	.2	.2	.2	.2	.2	.2	.2	.2	.2	.2	.2	.2	.2	.2	.2	.2	.2	.2
.2	.2	.2	.2	.2	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.2	.2	.2	.2	.2	.2	.2	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.2	.2
.2	.2	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3
.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3
.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.2	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3
.3	.4	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.4	.4	.4	.3	.3	.3	.4	.3	.3	.4	.3	.3
.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3
.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.4	.3	.3	.4	.3	.3	.3	.3	.4	.3	.3	.3	.3	.3	.3	.3	.3	.3
.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.4	.3	.3	.3	.3	.3	.3	.3	.4	.4	.4	.4	.4	.3	.3	.3	.4	.3	.3	.3	.3	.3	.3	.3	.3	.3
.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.4	.3	.4	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3
.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3
.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.2	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3
.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.2	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.2	.2	.3	.2	.3
.3	.2	.2	.3	.3	.2	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3
.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.4	.4	.3	.3	.4	.3	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.3	.3	.3	.3	.3
.4	.4	.4	.4	.3	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.3	.3	.3	.3	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4
.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.2	.2	.2	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3
.2	.2	.2	.2	.2	.2	.2	.2	.2	.2	.2	.2	.2	.2	.2	.2	.2	.2	.2	.2	.2	.2	.2	.2	.2	.2	.2	.2	.2	.2	.2	.2	.2	.2	.2	.2

TABLE 8

MONTHLY MONITORING OF MARINE SURFACE OBSERVATIONS (COSNA)
DATA TYPE:- DRIFTER
MONITORING CENTRE: EXETER
MONTH: Jun 06

Monitoring procedures
Period :One calendar month.

Data monitored :Reports from each unique identifier for drifting buoy.

Area monitored :10°N - 80°N, 85°W - 0°W

Standard of comparison :Background field from UKMO global model.

Position :Average latitude and longitude for period.

Observation times :All hours combined.

Elements monitored :Mean sea-level pressure (hPa)
:Wind speed (m s^{-1})
:Wind direction (degrees)

Parameters monitored

:NOBS :Number of observations received excluding duplicates.

:NGE :Number of observations with gross errors.

:PGE :Percentage of observations with gross errors.

:SD :SD of difference of observations from background values excluding those with gross errors.

:BIAS :Mean difference of observations from background values excluding those with gross errors.
N.B. A positive bias indicates the wind observation is veered to the background

:RMS :Root Mean Square difference of observations from background values excluding those with gross errors

GROSS ERROR LIMITS :15 hPa (pressure)
:25 m s^{-1} (Vector Wind)

N.B. Observations of wind direction are only included in the wind direction statistics if the observed OR background wind speed > 5 m s^{-1}

IDENTIFIER	LAT.	LONG.	ELEM	NOBS	PGE	%REJ	SD	BIAS	RMS
13534	25.6	-49.5	P	714	0	0	0.4	-0.1	0.4
41525	27.0	-67.8	P	710	0	5	0.5	-0.1	0.5
41535	18.2	-52.6	P	984	0	28	0.3	-0.4	0.5
41536	13.7	-61.0	P	519	0	55	0.9	0.9	1.2
41545	23.1	-54.0	P	100	0	12	0.5	-1.0	1.2
41625	25.6	-67.4	P	670	0	4	0.5	0.8	0.9
41630	28.8	-78.5	P	712	0	6	0.5	0.1	0.5
41643	37.1	-65.1	P	711	0	8	0.8	0.2	0.8
41645	30.6	-71.1	P	1137	0	41	0.5	0.8	0.9
41646	27.8	-67.6	P	684	0	5	0.4	0.4	0.6
41923	24.0	-83.4	P	487	0	73	0.4	0.6	0.7
44607	31.9	-28.3	P	718	1	1	0.3	-0.1	0.3
44609	46.1	-10.6	P	629	0	5	0.6	0.3	0.6
44611	60.4	-11.4	P	706	0	0	0.5	-0.6	0.8
44613	43.4	-42.1	P	710	0	0	0.4	0.6	0.7
44614	46.4	-38.9	P	700	0	0	0.5	0.3	0.5
44615	43.3	-19.9	P	692	0	0	0.4	-0.9	0.9
44617	50.6	-41.8	P	717	0	0	0.5	0.8	0.9
44620	44.4	-50.6	P	717	0	0	0.4	0.6	0.8
44637	40.2	-61.9	P	228	0	13	2.2	0.6	2.3
44722	49.8	-13.7	P	627	0	0	0.5	-0.2	0.5
44723	64.2	-33.0	P	716	0	0	0.6	-0.3	0.7
44725	56.1	-37.9	P	713	0	0	0.4	0.4	0.6
44728	55.6	-21.4	P	705	0	0	0.5	0.0	0.5
44729	44.4	-62.2	P	713	0	0	0.5	-0.6	0.8
44730	64.7	-27.7	P	709	0	0	0.6	-0.1	0.7
44742	53.8	-45.5	P	714	0	0	0.5	-0.2	0.5
44745	31.9	-29.2	P	704	0	1	0.3	0.2	0.3
44746	39.4	-31.1	P	537	38	38	0.8	-0.7	1.0
44747	39.9	-26.2	P	712	0	0	0.3	0.1	0.3
44760	52.5	-48.9	P	706	0	0	0.5	0.2	0.5
44761	50.9	-24.6	P	653	0	0	0.4	0.0	0.4
44762	54.0	-37.2	P	712	0	0	0.5	-0.2	0.5
44763	54.6	-42.8	P	717	0	0	0.6	-0.1	0.6
44764	48.5	-39.5	P	706	0	0	0.4	-0.3	0.5
44765	46.5	-35.8	P	709	0	0	0.4	0.1	0.4
44766	45.3	-35.8	P	701	0	0	0.4	0.0	0.4
44767	44.8	-41.9	P	703	0	0	0.4	0.2	0.5
44768	64.7	-34.6	P	711	0	0	0.6	-0.5	0.8
44769	45.8	-51.4	P	712	0	0	0.4	0.2	0.5
44770	55.7	-38.0	P	717	0	0	0.4	-0.3	0.5
44771	49.2	-46.6	P	713	0	0	0.4	-0.1	0.4
44772	45.2	-42.3	P	704	0	0	0.5	0.2	0.5
44773	42.0	-43.7	P	712	0	0	0.4	0.3	0.5
44774	40.7	-55.6	P	719	0	0	0.4	0.4	0.6
44776	57.4	-35.2	P	715	0	0	0.5	-0.1	0.5
44777	50.9	-26.0	P	702	0	0	0.4	-0.3	0.5
44778	49.7	-44.4	P	714	0	0	0.5	-0.3	0.6
44779	50.2	-28.1	P	703	0	0	0.5	0.1	0.5
44780	51.3	-40.0	P	714	0	0	0.4	0.0	0.4
44845	49.4	-21.3	P	826	0	14	0.3	-0.1	0.4
44846	47.8	-11.1	P	767	0	10	0.3	0.1	0.3
44847	35.9	-25.6	P	945	1	28	0.4	-0.1	0.4
44848	35.1	-33.8	P	794	0	12	0.4	0.2	0.4
44850	41.2	-21.3	P	800	0	13	0.3	0.0	0.3
44901	33.7	-32.6	P	813	0	14	0.3	0.1	0.3
44903	47.9	-21.9	P	1001	0	31	0.4	0.2	0.4
44913	41.8	-42.6	P	799	0	12	0.4	-0.2	0.4
44914	39.6	-47.2	P	796	0	12	0.4	0.1	0.4
47555	72.3	-75.0	P	1479	0	68	0.7	-0.2	0.8

IDENTIFIER	LAT.	LONG.	ELEM	NOBS	PGE	%REJ	SD	BIAS	RMS
56503	26.7	-82.0	P	32	94	97	0.1	-0.5	0.5
56532	44.7	-63.6	P	27	0	85	0.5	-4.5	4.5
56543	26.7	-82.0	P	18	100	100			
56548	26.7	-82.0	P	16	100	100			
56550	26.7	-82.0	P	17	100	100			
62507	44.2	-2.7	P	169	0	0	0.8	-0.1	0.8
62510	25.5	-26.9	P	710	0	0	0.3	0.1	0.3
62515	44.5	-7.2	P	714	0	0	0.4	-0.2	0.5
62556	25.6	-57.0	P	717	0	0	0.4	0.4	0.5
62560	43.9	-27.6	P	666	0	0	0.5	-0.1	0.5
62564	35.5	-23.5	P	714	0	0	0.3	0.1	0.3
62567	35.0	-17.8	P	693	0	0	0.3	-0.6	0.6
62569	60.6	-31.7	P	719	0	0	0.5	0.6	0.7
62571	45.6	-4.1	P	587	0	0	0.4	0.0	0.4
62572	31.8	-13.2	P	712	0	0	0.3	-0.2	0.4
62573	38.3	-29.7	P	758	0	8	0.3	0.2	0.4
62574	51.4	-21.1	P	698	0	0	0.4	0.1	0.4
62575	48.8	-27.0	P	701	0	0	0.4	0.1	0.4
62934	44.6	-6.9	P	766	0	10	0.4	0.0	0.4
62935	41.9	-21.1	P	769	0	10	0.3	0.0	0.3
63528	69.6	-20.9	P	884	0	80	0.7	0.0	0.7
63529	70.8	-17.4	P	2103	0	83	0.6	0.0	0.7
64614	64.3	-26.8	P	717	0	1	0.7	0.0	0.7
64615	64.9	-35.9	P	709	0	0	0.6	-0.5	0.8
64616	62.3	-31.8	P	716	0	0	0.5	-0.3	0.6
64617	61.4	-35.6	P	719	0	0	0.5	0.1	0.5
74533	26.7	-82.0	P	17	100	100			
9350317	49.5	-43.1	P	13	0	0	0.5	0.2	0.5

IDENTIFIER	LAT.	LONG.	ELEM	NOBS	PGE	%REJ	SD	BIAS	RMS
41525	27.0	-67.8	SPEED	699	0	100	2.0	-1.8	2.7
41630	28.8	-78.5	SPEED	695	0	100	2.6	-0.7	2.7
41643	37.1	-65.1	SPEED	697	0	100	2.9	-0.2	2.9
41645	30.6	-71.1	SPEED	1124	1	100	2.2	0.4	2.2
41646	27.8	-67.6	SPEED	673	0	100	2.1	-1.5	2.6
62571	45.6	-4.1	SPEED	395	0	100	1.6	0.0	1.6
9350317	49.5	-43.1	SPEED	12	0	100	2.8	1.3	3.1

IDENTIFIER	LAT.	LONG.	ELEM	NOBS	PGE	%REJ	SD	BIAS	RMS
41525	27.0	-67.8	DIRN.	213	1	0	23.3	4.3	23.7
41630	28.8	-78.5	DIRN.	277	0	0	29.9	16.1	34.0
41643	37.1	-65.1	DIRN.	295	0	0	19.8	25.5	32.3
41645	30.6	-71.1	DIRN.	680	1	0	31.9	15.2	35.3
41646	27.8	-67.6	DIRN.	239	0	0	19.2	17.5	26.0
62571	45.6	-4.1	DIRN.	195	0	0	16.5	3.3	16.9
9350317	49.5	-43.1	DIRN.	3	0	0	29.9	12.1	32.3

TABLE 9

MONTHLY MONITORING OF AIRCRAFT OBSERVATIONS (COSNA)
MONITORING CENTRE: EXETER
MONTH: Jun 06

Monitoring procedures:
Period :One calendar month.

Data monitored :Statistics for each airline carrier.

Area monitored :40°N - 70°N, 60°W - 0°W.

Standard of comparison :Background field from UKMO global model.

Observation times :All hours combined.

Level(s) monitored :300.0 - 150.0 hPa

Elements monitored :TEMP in °C ; WIND in m s^{-1}

Parameters monitored :N REP. :Number of observations received excluding duplicates.

:PG :Percentage of observations with gross errors.

:PR :Percentage of observations rejected by quality control including rejections from the duplicate check.

:PC :Percentage of observations with calm winds.

:RMS :Root Mean Square difference of observations from background values excluding those with gross errors in Temperature & vector wind.

:BIAS :Mean difference of observations from background values excluding those with gross errors in Temperature & vector wind.

GROSS ERROR LIMITS :10.0 °C ; 60 m s^{-1} Vector Wind

SELECTION CRITERIA :N REP ≥ 20

NB: All American ACARS data are grouped together and statistics are shown at the bottom of the table as "US ACARS". All ADS reports are similarly grouped together.

		TEMPERATURE				WIND					
IDENT.	N.REP.	PG	PR	RMS	BIAS	N.REP.	PG	PR	PC	RMS	BIAS
AAL	5133	0	6	1.3	0.1	4733	0	6	0	4.4	0.6
ACA	2412	1	5	1.7	-0.3	1746	0	2	0	4.7	0.4
ACF	44	9	57	4.0	-0.2	21	5	62	0	22.4	5.9
AEA	335	0	2	1.6	0.4	294	0	3	0	6.9	0.7
AFL	484	2	7	2.0	0.1	279	0	8	0	10.4	-0.3
AFR	4846	0	2	1.2	0.1	4723	0	2	0	4.6	0.4
AFZ	159	0	4	1.5	1.0	159	0	4	0	4.1	0.3
AIC	40	0	5	2.4	-0.5	26	0	4	0	6.0	1.1
AJM	130	0	8	1.0	-0.3	88	0	13	0	11.2	0.5
AMT	59	2	2	1.5	0.2	55	0	0	0	5.2	0.5
AMX	402	1	7	1.8	0.2	334	1	4	0	7.1	0.0
ANZ	168	1	34	1.5	0.1	156	0	32	0	4.0	-0.1
AUA	559	0	1	1.1	0.2	536	0	1	0	4.2	0.8
AVA	63	0	0	1.4	0.1	63	0	0	0	5.1	0.6
AZA	299	0	7	1.8	0.5	209	0	7	0	8.5	-0.1
BAW	636	1	24	1.8	-0.5	419	0	21	0	9.1	0.4
BBR	26	4	8	2.0	0.6	26	0	0	0	4.3	-1.0
BMA	344	0	3	1.3	0.0	334	0	3	0	3.4	0.6
BPA	165	1	22	1.9	0.4	151	1	16	0	9.3	-0.5
BWA	121	0	2	1.8	-0.5	93	0	1	0	5.3	0.7
CFC	47	0	11	1.9	-0.7	45	0	7	0	8.7	1.7
CFG	373	1	7	1.5	0.1	250	0	11	0	11.1	0.3
CFY	42	0	2	1.1	-0.3	40	0	3	0	3.8	0.2
CGD	34	0	3	2.0	-0.8	32	0	6	0	7.1	0.7
CGF	574	0	2	1.4	-0.2	546	0	1	0	3.3	0.6
CGH	308	0	2	1.2	-0.1	287	0	2	0	3.1	0.2
CKS	70	0	13	2.4	-0.3	22	0	23	0	15.1	-0.9
CLX	243	0	6	1.7	-0.4	110	1	10	0	8.2	-0.4
CNJ	66	0	47	0.9	0.5	66	0	47	0	3.4	0.2
COA	4763	0	7	1.1	0.0	4536	0	6	0	4.5	0.5
CRL	127	1	4	1.4	-0.4	109	0	5	0	7.3	0.3
CSD	91	0	10	2.0	0.6	46	0	9	0	3.8	-0.1
CUB	153	1	5	1.5	0.5	94	0	100	0	9.0	-0.6
DAB	980	0	5	1.5	-0.3	939	0	4	0	3.8	0.5
DAI	882	0	7	1.2	0.0	853	0	7	0	3.8	0.7
DAL	1813	0	8	1.5	0.1	1422	0	5	0	4.9	0.7
DLH	5435	0	4	1.2	0.0	5308	0	4	0	4.2	0.4
DRD	131	3	5	1.8	-0.6	130	1	7	0	8.8	0.8
EDW	35	0	9	1.9	-0.8	26	0	4	0	9.2	1.4
EEZ	142	4	12	2.3	0.0	93	1	13	0	11.4	0.9
EIA	168	0	6	1.8	-0.5	142	1	100	0	23.5	8.8
ELY	481	0	2	1.1	0.4	442	0	2	0	5.1	0.2
ETH	58	0	14	1.4	0.0	22	0	5	0	12.1	-0.2
FCA	107	0	5	1.7	-0.1	62	0	6	0	13.0	1.5
FDX	191	0	28	1.5	0.1	90	0	27	0	9.7	-0.6
FGE	27	0	4	1.6	-0.3	26	0	0	0	3.4	0.3
FGI	331	1	2	1.5	-0.1	322	0	0	0	3.9	0.5
FGL	126	0	3	1.1	0.2	122	0	3	0	3.5	0.4
FGN	32	0	6	1.3	-0.1	32	0	6	0	4.2	1.0
FGS	486	0	3	1.3	0.1	470	0	3	0	4.0	0.9
FGZ	107	0	3	1.2	-0.4	105	0	3	0	3.1	0.6
FIN	336	1	4	1.7	-0.1	286	0	4	0	7.6	0.1
FWI	178	1	16	2.1	-0.6	171	0	12	0	8.7	0.4
GCO	113	0	9	1.8	0.2	97	0	6	0	7.4	0.4
GEC	489	0	24	1.7	-0.1	455	0	24	0	8.6	-0.1
GOJ	205	0	2	1.3	0.4	197	0	3	0	3.6	0.7
GRL	99	0	1	1.3	0.1	96	0	3	0	7.6	0.4
GTI	92	2	10	1.9	0.3	60	0	5	0	9.0	-0.7
GVA	45	0	4	1.2	-0.1	44	0	5	0	3.2	0.8

		TEMPERATURE						WIND			
IDENT.	N.REP.	PG	PR	RMS	BIAS	N.REP.	PG	PR	PC	RMS	BIAS
GVB	68	0	4	1.3	-0.1	64	0	5	0	3.7	0.5
GVF	97	0	2	1.6	-0.6	95	0	2	0	4.0	1.0
GVG	47	0	2	1.6	-0.9	46	0	2	0	3.5	0.3
GVH	79	0	4	1.6	-0.5	75	0	1	0	4.0	0.2
GVL	44	0	2	1.6	-0.4	41	0	2	0	3.8	0.9
GVR	213	0	2	1.3	-0.1	205	0	2	0	4.1	0.4
GVS	26	0	8	1.3	-0.4	26	0	8	0	3.7	0.2
GVT	33	0	6	1.2	-0.7	33	0	6	0	3.9	0.7
GVW	74	0	4	1.6	-0.6	72	0	4	0	4.2	0.4
GWW	138	0	1	1.2	0.0	133	0	2	0	3.0	0.7
HBI	281	0	5	1.2	-0.5	274	0	5	0	3.8	0.5
HBJ	112	0	3	1.4	-0.7	107	0	3	0	4.1	1.2
IBE	1845	1	7	1.6	-0.1	1776	0	6	0	8.7	0.4
ICE	1168	1	4	1.6	-0.1	706	0	2	0	5.0	0.6
ISR	83	1	6	1.6	-0.3	43	2	7	0	6.7	1.5
IWD	209	0	4	1.4	-0.2	209	0	2	0	6.2	0.4
KAC	112	0	0	1.1	0.6	109	0	0	0	4.0	-0.2
KLM	1029	1	5	1.6	0.0	754	1	8	0	8.9	0.1
LCO	35	0	11	1.6	0.1	31	0	0	0	7.5	-0.1
LNR	439	0	48	1.3	-0.2	413	0	48	0	3.6	0.5
LOT	525	1	4	1.8	-0.8	327	0	5	0	7.7	0.4
LTU	530	0	6	1.4	-0.3	479	0	6	0	6.2	0.7
LVG	162	0	5	1.2	-0.3	144	0	6	0	4.9	0.9
MAS	82	0	1	1.4	0.2	72	0	0	0	3.3	0.2
MPD	219	0	5	1.3	-0.1	197	0	9	0	7.9	0.2
MPH	159	0	8	1.8	-0.8	103	0	14	0	9.9	-0.7
MSR	172	0	1	1.0	0.4	170	0	1	0	4.1	0.3
MXJ	377	1	9	1.6	0.3	204	0	8	0	6.5	0.5
MYT	176	1	8	1.8	-0.2	115	0	10	0	9.5	0.3
NAO	82	0	6	1.7	-0.8	70	0	0	0	6.3	0.7
NOS	123	1	6	1.4	0.1	80	0	8	0	8.3	0.7
NWA	2436	0	5	1.6	0.0	2289	0	3	0	5.8	0.4
OAE	211	1	10	1.8	-0.1	100	1	19	0	12.6	2.4
OOM	170	2	8	2.0	-0.1	116	0	7	0	6.6	0.2
OYK	546	0	48	1.4	-0.2	518	0	48	0	3.4	0.4
PAC	53	0	4	2.4	0.3	30	0	10	0	13.9	0.1
PLM	111	0	3	1.7	1.3	107	0	6	0	10.9	0.1
RAM	470	1	4	1.5	-0.2	315	0	6	0	7.9	-0.3
RCH	249	2	100	4.3	-0.2	197	0	100	0	10.2	1.1
RJA	32	0	6	2.1	-0.3	22	0	0	0	5.2	0.6
RRR	50	0	0	1.2	-0.5	48	0	8	0	8.5	-0.1
RYN	24	4	8	1.2	0.1	22	0	5	0	13.4	2.3
RZO	269	0	2	1.4	-0.6	229	0	6	0	7.9	0.5
SAS	1092	0	62	1.2	-0.1	1065	0	62	0	3.9	0.6
SER	439	0	54	1.4	0.0	416	0	54	0	3.4	0.4
SEU	59	3	17	1.9	0.1	47	2	19	0	11.6	3.2
SIA	250	0	2	1.1	0.1	242	0	2	0	4.2	0.3
SLM	31	0	0	1.4	0.0	31	0	0	0	4.8	1.0
SQC	257	0	2	1.2	-0.1	256	0	2	0	4.8	-0.4
SSV	53	0	2	1.4	-0.1	43	0	5	0	8.1	-0.1
SWR	1709	0	5	1.2	-0.6	1674	0	5	0	4.1	0.6
TAP	443	0	4	1.6	-0.3	353	0	5	0	8.8	0.1
TCX	286	0	5	1.3	0.0	251	0	4	0	4.5	0.9
TFL	84	0	10	1.5	-0.5	53	2	49	0	12.2	1.8
THT	88	0	0	1.3	-0.5	86	0	0	0	3.7	0.5
TOM	219	1	12	1.8	-0.4	199	0	10	0	8.8	-0.1
TSC	554	2	8	1.9	-0.7	338	0	2	0	6.4	0.2
TUB	71	1	11	1.1	-0.1	45	0	11	0	7.4	0.4
UAE	378	0	1	1.4	0.3	365	0	1	0	4.6	0.5

		TEMPERATURE						WIND			
IDENT.	N.REP.	PG	PR	RMS	BIAS	N.REP.	PG	PR	PC	RMS	BIAS
UAL	3538	0	4	1.4	0.0	3451	0	4	0	4.5	0.5
UPS	895	0	52	1.6	0.0	473	0	51	0	6.3	0.4
USA	1854	0	3	1.1	-0.1	1782	0	3	0	4.4	0.4
VIR	2180	0	3	1.2	-0.1	2115	0	3	0	4.3	0.2
WOA	96	0	1	1.1	-0.1	84	0	4	0	7.7	-0.5
XLA	35	0	11	1.9	-0.2	29	3	21	0	9.8	3.7
ZKN	147	0	1	1.4	0.1	139	0	1	0	4.5	1.1
ZKS	26	0	0	1.2	0.0	23	0	0	0	4.2	-0.4
9VS	83	0	1	1.2	-0.1	83	0	1	0	4.6	0.5

		TEMPERATURE						WIND			
IDENT.	N.REP.	PG	PR	RMS	BIAS	N.REP.	PG	PR	PC	RMS	BIAS
EU	48299	0	22	1.2	0.1	48299	0	21	0	3.9	0.3
N	6040	0	13	1.4	-0.2	5684	0	13	0	4.0	0.5
S	43	0	2	1.4	-0.2	42	0	0	0	4.0	0.5
US AMDAR	40812	0	34	1.2	0.2	40812	0	29	0	4.4	0.1

TABLE 10

MONTHLY MONITORING OF RADIOSONDE OBSERVATIONS (COSNA)
MONITORING CENTRE: EXETER
MONTH: Jun 06

Monitoring procedures

Period		:One calendar month.
Data monitored		:Reports from selected radiosonde TEMPs.
Area monitored		:0°N - 90°N, 100°W - 40°E
Standard of comparison		:Background field from UKMO global model.
Position		:Average latitude and longitude for period.
Observation times		:00, 12 UTC.
Level monitored		:100 hPa.
Element monitored		:GEOPOTENTIAL HEIGHT in metres
Parameters monitored	:NUM OBS	:Number of observations available at level shown during period.
	:NUM GROSS	:Number of gross errors at level shown during period.
	:SD	:SD of difference of observations from background values at level shown excluding those with gross errors.
	:BIAS	:Mean difference of observations from background values at level shown excluding those with gross errors.

GROSS ERROR LIMITS :Defined in Appendix I.1

WMO IDENT	OBS TIME	ELM	LEV	NUM OBS	NUM GROSS	SD	RMS	BIAS
ASDE01	00	Z	100	6	0	17.8	25.0	17.5
ASDE01	12	Z	100	7	0	15.2	17.6	9.0
ASDE02	00	Z	100	14	0	11.8	12.0	-1.8
ASDE02	12	Z	100	15	0	31.5	34.3	13.5
ASDE03	00	Z	100	8	0	15.6	19.4	11.6
ASDE03	12	Z	100	10	0	14.4	25.5	21.1
ASDE04	00	Z	100	4	0	10.3	23.4	21.0
ASDE04	12	Z	100	3	0	7.8	13.7	11.3
ASEU01	00	Z	100	14	0	16.0	17.1	6.2
ASEU01	12	Z	100	11	0	9.5	11.2	6.0
ASEU02	00	Z	100	12	0	40.1	42.9	-15.2
ASEU02	12	Z	100	12	0	7.9	8.1	2.1
ASEU03	00	Z	100	7	0	13.7	20.1	14.7
ASEU03	12	Z	100	6	0	8.7	8.9	1.7
ASEU04	00	Z	100	2	0	3.0	22.2	22.0
ASEU04	12	Z	100	5	0	10.7	30.2	28.2
ASEU05	00	Z	100	16	0	9.2	20.8	18.7
ASEU05	12	Z	100	9	0	8.9	12.1	8.2
ASUK01	00	Z	100	4	0	12.1	35.1	33.0
ASUK01	12	Z	100	7	0	16.3	40.3	36.9
EBUQ	12	Z	100	14	1	10.2	11.0	-4.1
FQFL	00	Z	100	7	1	15.0	28.2	-23.9
FQFL	12	Z	100	8	0	19.6	23.7	-13.4
FQFM	00	Z	100	10	0	12.7	20.0	-15.4
FQFM	12	Z	100	12	0	17.9	18.8	-6.0
LDWR	00	Z	100	29	0	8.1	13.7	11.0
LDWR	12	Z	100	25	0	8.4	11.4	7.7
MCOUA	12	Z	100	5	0	8.5	15.4	12.8
OXGN2	00	Z	100	10	0	10.3	17.4	14.0
OXGN2	12	Z	100	12	0	9.4	29.3	27.8
OXVH2	00	Z	100	9	0	23.3	23.3	-0.4
OXVH2	12	Z	100	8	0	20.8	21.7	6.4
V2XM	00	Z	100	6	0	12.2	43.9	42.2
V2XM	12	Z	100	6	0	12.3	42.2	40.3
03953	00	Z	100	28	0	8.3	8.5	1.8
03953	12	Z	100	30	0	9.1	9.4	-2.7
04018	00	Z	100	29	0	9.9	10.2	2.5
04018	12	Z	100	30	0	9.1	11.8	7.5
04220	00	Z	100	29	0	13.6	23.4	19.0
04220	12	Z	100	30	0	10.9	22.4	19.6
04270	00	Z	100	28	0	11.7	13.1	5.8
04270	12	Z	100	30	0	12.5	14.5	7.3
04339	00	Z	100	29	0	6.6	12.3	10.3
04339	12	Z	100	30	0	11.4	20.7	17.3
04360	00	Z	100	29	0	9.1	21.2	19.2
04360	12	Z	100	30	0	16.1	29.8	25.0
08001	00	Z	100	24	0	8.1	9.8	5.5
08001	12	Z	100	27	0	9.5	13.7	9.8
08508	12	Z	100	22	0	11.1	12.3	-5.3
08522	12	Z	100	26	0	9.9	12.5	-7.7
08594	12	Z	100	22	0	14.7	22.5	-17.0
71600	00	Z	100	29	0	10.4	11.6	-5.1
71600	12	Z	100	29	0	11.0	13.1	7.2
72201	00	Z	100	28	0	11.9	16.5	11.4
72201	12	Z	100	28	0	9.1	19.6	17.3
72402	00	Z	100	29	0	13.3	32.2	29.3
72402	12	Z	100	29	0	8.6	12.5	9.1
74494	00	Z	100	26	0	32.5	33.0	5.6
74494	12	Z	100	27	0	15.4	15.4	0.4
78016	00	Z	100	29	0	10.5	14.2	9.5
78016	12	Z	100	28	0	9.8	13.0	8.4

TABLE 11

MONTHLY MONITORING OF RADIOSONDE OBSERVATIONS (COSNA)
MONITORING CENTRE: EXETER
MONTH: Jun 06

Monitoring procedures:

Period		:One calendar month.
Data monitored		:Reports from selected radiosonde TEMPs.
Area monitored		:0°N - 90°N, 100°W - 40°E
Standard of comparison		:Background field from UKMO global model.
Position		:Average latitude and longitude for period.
Observation times		:00, 12 UTC. .
Level monitored		:500 hPa.
Element monitored		:GEOPOTENTIAL HEIGHT in metres
Parameters monitored	:NUM OBS	:Number of observations available at level shown during period.
	:NUM GROSS	:Number of gross errors at level shown during period.
	:SD	:SD of difference of observations from background values at level shown excluding those with gross errors.
	:BIAS	:Mean difference of observations from background values at level shown excluding those with gross errors.

GROSS ERROR LIMITS :Defined in Appendix I.1

WMO IDENT	OBS TIME	ELM	LEV	NUM OBS	NUM GROSS	SD	RMS	BIAS
ASDE01	00	Z	500	7	0	10.8	15.3	10.9
ASDE01	12	Z	500	9	0	14.5	17.1	9.1
ASDE02	00	Z	500	14	0	4.0	5.0	-3.1
ASDE02	12	Z	500	15	0	7.9	8.7	3.6
ASDE03	00	Z	500	10	0	26.3	26.5	-2.9
ASDE03	12	Z	500	11	0	4.3	10.7	9.8
ASDE04	00	Z	500	4	0	5.7	6.6	3.3
ASDE04	12	Z	500	3	0	0.5	0.6	0.3
ASEU01	00	Z	500	14	0	11.9	12.1	-2.2
ASEU01	12	Z	500	11	0	10.4	10.4	-0.5
ASEU02	00	Z	500	13	0	20.1	24.6	-14.2
ASEU02	12	Z	500	13	0	6.0	8.5	-6.0
ASEU03	00	Z	500	7	0	9.1	9.7	3.4
ASEU03	12	Z	500	6	0	5.5	7.0	-4.3
ASEU04	00	Z	500	4	0	2.0	19.1	19.0
ASEU04	12	Z	500	6	0	8.8	22.2	20.3
ASEU05	00	Z	500	17	0	6.3	12.6	10.9
ASEU05	12	Z	500	17	0	11.5	11.5	0.1
ASUK01	00	Z	500	4	0	2.5	22.1	22.0
ASUK01	12	Z	500	8	0	3.8	29.4	29.1
EBUQ	12	Z	500	17	1	8.7	8.7	-0.1
FQFL	00	Z	500	11	1	6.0	20.0	-19.1
FQFL	12	Z	500	10	0	6.7	17.7	-16.4
FQFM	00	Z	500	11	0	7.6	21.8	-20.5
FQFM	12	Z	500	12	0	8.2	14.6	-12.0
HVDAN	12	Z	500	8	0	6.5	15.9	14.5
LDWR	00	Z	500	29	0	7.4	8.4	3.8
LDWR	12	Z	500	28	0	6.3	6.9	2.8
MCOUA	12	Z	500	5	0	9.7	12.0	7.0
OXGN2	00	Z	500	10	0	7.3	10.5	7.5
OXGN2	12	Z	500	12	0	10.9	13.1	7.4
OXVH2	00	Z	500	9	0	23.8	25.1	-7.9
OXVH2	12	Z	500	11	0	27.0	28.6	-9.6
V2XM	00	Z	500	7	0	8.2	29.0	27.9
V2XM	12	Z	500	7	0	22.3	26.4	14.1
03953	00	Z	500	29	0	5.9	5.9	-0.3
03953	12	Z	500	30	0	5.1	8.6	-6.9
04018	00	Z	500	29	0	8.4	8.8	2.7
04018	12	Z	500	30	0	7.2	7.2	-0.3
04220	00	Z	500	29	0	6.5	7.5	3.7
04220	12	Z	500	30	0	13.8	13.8	0.8
04270	00	Z	500	29	0	9.2	9.4	-1.7
04270	12	Z	500	30	0	10.6	10.7	-1.6
04339	00	Z	500	29	0	6.3	6.3	0.5
04339	12	Z	500	30	0	10.9	11.7	4.3
04360	00	Z	500	29	0	7.2	9.1	5.5
04360	12	Z	500	30	0	10.4	11.3	4.5
08001	00	Z	500	28	0	4.9	5.1	-1.5
08001	12	Z	500	30	0	5.2	6.7	-4.3
08508	12	Z	500	23	0	6.7	13.8	-12.0
08522	12	Z	500	28	0	5.6	11.3	-9.8
08594	12	Z	500	25	0	5.0	11.9	-10.8
71600	00	Z	500	29	0	6.1	8.7	-6.2
71600	12	Z	500	29	0	6.2	6.4	1.6
72201	00	Z	500	28	0	3.6	4.0	-1.6
72201	12	Z	500	29	0	5.1	5.5	-2.0
72402	00	Z	500	29	0	6.9	7.0	1.4
72402	12	Z	500	29	0	5.7	5.7	0.1
74494	00	Z	500	26	0	8.1	9.0	-3.8
74494	12	Z	500	28	0	6.8	8.1	-4.4
78016	00	Z	500	29	0	7.6	7.6	1.0

78016	12	Z	500	30	0	5.6	7.1	4.4

TABLE 12

MONTHLY MONITORING OF RADIOSONDE OBSERVATIONS (COSNA)
MONITORING CENTRE: EXETER
MONTH: Jun 06

Monitoring procedures

Period		:One calendar month.
Data monitored		:Reports from selected radiosonde TEMPs.
Area monitored		:0°N - 90°N, 100°W - 40°E
Standard of comparison		:Background field from UKMO global model.
Position		:Average latitude and longitude for period.
Observation times		:00, 12 UTC.
Level monitored		:100 hPa.
Element monitored		:VECTOR WIND in m s^{-1}
Parameters monitored	:NUM OBS	:Number of observations available at level shown during period.
	:NUM GROSS	:Number of gross errors at level shown during period.
	:UBIAS,VBIAS	:Mean difference of observations of U and V components from background values at level shown excluding those with gross errors.
	:RMS	:Root Mean Square difference of observations from background values at level shown excluding those with gross errors.
GROSS ERROR LIMITS	:Defined in Appendix I.2	

WMO IDENT	OBS TIME	ELM	LEV	NUM OBS	NUM GROSS	% REJ	RMS	UBIAS	VBIAS
ASDE01	00	V	100	6	0	0	2.6	-1.2	0.1
ASDE01	12	V	100	7	0	0	3.2	-0.9	0.9
ASDE02	00	V	100	14	0	0	6.7	-2.0	1.7
ASDE02	12	V	100	15	0	0	7.0	-3.7	1.1
ASDE03	00	V	100	8	0	0	3.2	-2.0	-0.6
ASDE03	12	V	100	10	0	0	3.0	-0.5	-0.3
ASDE04	00	V	100	4	0	0	5.3	0.8	-0.7
ASDE04	12	V	100	3	0	0	3.3	0.0	-0.2
ASEU01	00	V	100	14	0	0	3.6	-0.3	0.4
ASEU01	12	V	100	11	0	0	2.7	-1.3	0.7
ASEU02	00	V	100	12	0	0	4.2	0.6	-1.1
ASEU02	12	V	100	10	0	0	4.2	0.2	1.7
ASEU03	00	V	100	5	0	0	3.2	-1.4	0.8
ASEU03	12	V	100	6	0	0	2.5	0.4	0.6
ASEU04	00	V	100	1	0	0	1.7	-1.2	-1.3
ASEU04	12	V	100	1	0	0	3.6	0.3	3.6
ASEU05	00	V	100	16	0	0	3.6	-1.1	0.2
ASEU05	12	V	100	9	0	0	4.2	-1.8	-1.1
ASUK01	00	V	100	4	0	0	2.8	0.7	-0.5
ASUK01	12	V	100	7	0	0	2.8	-0.4	1.0
EBUQ	12	V	100	12	0	0	4.5	-1.4	-0.2
FQFL	00	V	100	8	0	0	5.8	1.9	0.7
FQFL	12	V	100	8	0	0	4.9	1.3	-0.4
FQFM	00	V	100	10	0	0	4.3	0.4	0.5
FQFM	12	V	100	11	0	0	3.4	0.7	0.0
LDWR	00	V	100	29	0	0	2.8	0.8	0.3
LDWR	12	V	100	24	0	0	2.4	0.1	0.0
MCOUA	12	V	100	4	0	0	5.8	0.9	-0.1
OXGN2	00	V	100	8	0	0	3.2	-1.1	-1.4
OXGN2	12	V	100	11	0	0	3.2	0.5	0.7
OXVH2	00	V	100	7	0	0	3.6	-1.0	0.4
OXVH2	12	V	100	4	0	0	2.1	0.9	1.0
V2XM	00	V	100	6	0	0	3.2	-1.1	1.8
V2XM	12	V	100	6	0	0	3.9	0.0	-1.2
03953	00	V	100	28	0	0	2.2	0.1	0.0
03953	12	V	100	30	0	0	2.4	0.8	0.4
04018	00	V	100	29	0	0	2.6	-0.9	-0.2
04018	12	V	100	30	0	0	2.9	-0.7	-0.9
04220	00	V	100	29	0	0	2.9	-0.7	-0.3
04220	12	V	100	30	0	0	2.5	-0.4	0.1
04270	00	V	100	27	0	0	3.7	-0.3	0.5
04270	12	V	100	30	0	0	4.3	-0.8	0.4
04339	00	V	100	29	0	0	2.6	-0.3	-0.1
04339	12	V	100	30	0	0	2.5	0.3	0.1
04360	00	V	100	29	0	0	2.8	-0.4	-0.7
04360	12	V	100	30	0	0	2.9	-0.5	-0.1
08001	00	V	100	21	0	0	3.9	0.8	0.9
08001	12	V	100	24	0	0	3.9	0.4	0.6
08508	12	V	100	16	0	0	2.5	-0.3	0.3
08522	12	V	100	26	0	0	5.0	0.1	0.1
08594	12	V	100	22	0	100	3.9	0.1	0.4
71600	00	V	100	29	0	0	3.1	-0.3	-0.3
71600	12	V	100	29	0	0	3.0	-0.2	0.2
72201	00	V	100	28	0	0	2.8	-0.5	-0.5
72201	12	V	100	28	0	0	3.4	-0.3	0.3
72402	00	V	100	29	0	0	2.9	0.0	0.0
72402	12	V	100	30	0	0	3.3	0.1	-0.5
74494	00	V	100	26	0	100	3.1	0.1	-0.1
74494	12	V	100	27	0	100	2.3	-0.7	0.0
78016	00	V	100	28	0	0	4.6	-0.7	-0.9
78016	12	V	100	28	0	0	4.2	0.2	1.3

TABLE 13

MONTHLY MONITORING OF RADIOSONDE OBSERVATIONS (COSNA)
MONITORING CENTRE: EXETER
MONTH: Jun 06

Monitoring procedures

Period		:One calendar month.
Data monitored		:Reports from selected radiosonde TEMPs.
Area monitored		:0°N - 90°N, 100°W - 40°E
Standard of comparison		:Background field from UKMO global model.
Position		:Average latitude and longitude for period.
Observation times		:00, 12 UTC.
Level monitored		:500 hPa.
Element monitored		:VECTOR WIND in m s^{-1}
Parameters monitored	:NUM OBS	:Number of observations available at level shown during period.
	:NUM GROSS	:Number of gross errors at level shown during period.
	:UBIAS,VBIAS:	Mean difference of observations of U and V components from background values at level shown excluding those with gross errors.
	:RMS	:Root Mean Square difference of observations from background values at level shown excluding those with gross errors.
GROSS ERROR LIMITS	:Defined in Appendix I.2	

WMO IDENT	OBS TIME	ELM	LEV	NUM OBS	NUM GROSS	% REJ	RMS	UBIAS	VBIAS
ASDE01	00	V	500	7	0	0	3.7	-0.3	-1.2
ASDE01	12	V	500	9	0	0	2.5	-1.2	0.4
ASDE02	00	V	500	14	0	0	3.8	0.8	-1.4
ASDE02	12	V	500	15	0	0	4.2	1.0	-1.3
ASDE03	00	V	500	10	0	0	3.3	0.1	-0.7
ASDE03	12	V	500	11	0	0	3.7	-1.5	0.4
ASDE04	00	V	500	4	0	0	3.7	-0.7	-1.9
ASDE04	12	V	500	3	0	0	2.5	0.8	-0.2
ASEU01	00	V	500	14	0	0	2.7	0.3	-0.4
ASEU01	12	V	500	11	0	0	3.0	-1.2	0.2
ASEU02	00	V	500	13	0	0	3.2	0.2	-0.4
ASEU02	12	V	500	12	0	0	3.6	0.3	-0.8
ASEU03	00	V	500	5	0	0	2.0	-1.0	-0.3
ASEU03	12	V	500	6	0	0	2.9	0.1	-1.2
ASEU04	00	V	500	1	0	0	2.4	-2.0	1.3
ASEU04	12	V	500	1	0	0	1.2	-1.0	-0.7
ASEU05	00	V	500	16	0	0	3.8	0.9	-1.0
ASEU05	12	V	500	17	0	0	3.1	-0.3	-0.9
ASUK01	00	V	500	4	0	0	3.6	2.1	0.0
ASUK01	12	V	500	8	0	0	2.2	0.3	-0.6
EBUQ	12	V	500	14	0	0	4.1	-0.5	0.6
FQFL	00	V	500	12	0	0	3.5	0.4	0.2
FQFL	12	V	500	10	0	0	4.5	-1.4	0.2
FQFM	00	V	500	11	0	0	2.3	0.1	-0.1
FQFM	12	V	500	12	0	0	2.7	-0.2	0.5
HVDAN	12	V	500	8	0	0	4.5	-0.1	1.0
LDWR	00	V	500	29	0	0	3.5	0.6	-0.7
LDWR	12	V	500	27	0	0	3.1	0.1	0.3
MCOUA	12	V	500	4	0	0	3.7	0.4	2.2
OXGN2	00	V	500	10	0	0	3.4	0.7	-0.2
OXGN2	12	V	500	12	0	0	3.3	1.2	-0.8
OXVH2	00	V	500	9	0	0	3.4	-1.1	-0.8
OXVH2	12	V	500	8	0	0	6.5	2.2	1.0
V2XM	00	V	500	7	0	0	3.7	0.2	-0.7
V2XM	12	V	500	7	0	0	2.6	-0.9	0.0
03953	00	V	500	28	0	0	3.9	0.2	1.7
03953	12	V	500	30	0	0	3.1	0.1	0.1
04018	00	V	500	29	0	0	4.0	-0.2	-0.2
04018	12	V	500	30	0	0	3.6	-0.9	0.3
04220	00	V	500	29	0	0	3.5	0.2	-0.1
04220	12	V	500	30	0	0	3.8	-0.1	-1.0
04270	00	V	500	29	0	0	5.0	-1.5	1.3
04270	12	V	500	30	0	0	4.8	-0.1	0.7
04339	00	V	500	29	0	3	4.2	0.5	-0.2
04339	12	V	500	30	0	0	4.4	0.3	1.3
04360	00	V	500	29	0	0	5.0	0.5	0.0
04360	12	V	500	30	0	0	3.7	0.2	0.1
08001	00	V	500	25	0	0	4.5	0.2	-0.7
08001	12	V	500	25	0	0	4.1	-0.7	-0.8
08508	12	V	500	18	0	0	3.5	0.2	-0.4
08522	12	V	500	28	0	0	2.9	0.5	0.3
08594	12	V	500	25	0	0	4.0	0.2	0.4
71600	00	V	500	29	0	0	3.4	-0.9	0.5
71600	12	V	500	29	0	0	3.7	0.0	1.2
72201	00	V	500	28	0	0	3.0	0.0	-0.2
72201	12	V	500	29	0	0	2.9	0.0	-0.3
72402	00	V	500	26	0	0	3.3	-0.5	-0.1
72402	12	V	500	30	0	0	3.5	-0.1	0.1
74494	00	V	500	26	0	0	3.1	-0.6	-0.9
74494	12	V	500	28	0	0	3.3	-0.4	0.3
78016	00	V	500	29	0	0	3.5	-0.5	0.7

78016	12	V	500	29	0	0	2.9	0.4	0.6

APPENDIX I

1. The gross error limits for observation minus background differences of geopotential height in Tables 5, 10 and 11 are:-

Level (hPa)	Geopotential height (metres)
1000	100
850	100
700	100
500	150
400	175
300	200
250	225
200	250
150	275
100	300
70	375
50	400
30	450

The weighted RMS values used in Table 5,10 and 11 are calculated using the following weights:-

Level (hPa)	Weight
1000	3.70
850	3.40
700	2.90
500	2.20
400	1.90
300	1.60
250	1.50
200	1.37
150	1.19
100	1.00
70	0.87
50	0.80
30	0.64

2. The gross error limits for observation minus background differences of windspeed in Tables 6,12 and 13 are:-

Level (hPa)	Windspeed m s^{-1}
1000	35
850	35
700	40
500	45
400	50
300	60
250	60
200	50
150	50
100	45